November 30 — December 6, 2015

# Bloomberg Businessweek

NOTION STAY



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# **Bloomberg Businessweek**Contents



"I don't need a toilet to understand my community's problems"

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"I wonder how people feel about Walmart wasting money by hiring Lockheed Martin to read my tweets"

"Santa has taught me to be a better man"

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How the cover gets made

#### **Domestic Cover**



"The story is on how Walmart spies on its employees."

"That's outrageous. I can't believe Walmart of all companies is the one that infringes on the privacy of its employees. The only way I sleep at night is knowing my digital paper trail, rife with endless amounts of embarrassing, incriminating, and possibly illegal information, is safe and sound from unwelcome eyes."

"I never said Walmart was the only company."



#### International Cover



"The story is about ways to slow climate change, timed to the Paris climate conference."

"How incredibly uplifting. Despite everything we've done, despite all the smog, garbage, oil, and chemicals we've pumped into this planet, we can restore it to a place where humanity can breathe clean air and swim in the ocean without fear of deadly parasites seeping into every orifice of our bodies."

"We can slow climate change, but the damage we've done is mostly irrevocable. It's about slowing the path to total human extinction, not stopping it."

"So what you're saying is..."





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# AGOLDEN AGE of BUSINESS TRAVEL

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private jets, global

business travelers have

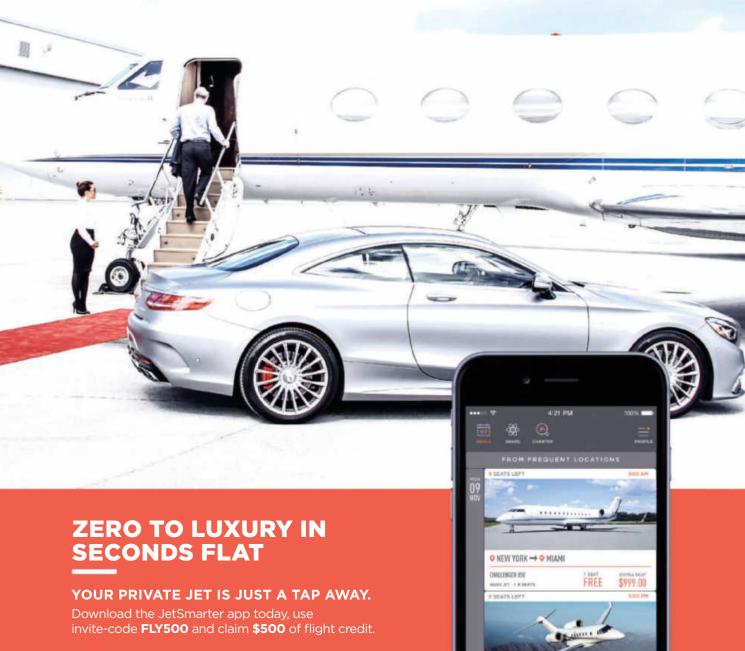
never had so many

intriguing options

With competition for corporate travel dollars more heated than ever, a number of companies—some decades old, some founded over the last few years in an attempt to reinvent the travel sector—stand committed to reshaping how the business world moves. Whether they are raising the bar on the level of service businesspeople can expect when they fly, or offering previously out-of-reach products to new market segments, one thing is clear: A new golden age of business travel isn't just on the horizon; it is already here.



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Headquartered in Abu Dhabi, Etihad Airways has long courted an elite sector of the business travel market by offering an unprecedented level of luxury on a commercial airline, and now it is setting its sights on attracting clientele who would normally fly private jets.

Earlier this year Etihad launched The Residence by Etihad™ on its Airbus A380, an ultra-luxurious private three-room suite that seats up to two—a first in commercial aviation. Measuring 125 square feet, The Residence features a private living room, a separate shower room, a bedroom with a double bed and a private

butler-trained at London's prestigious Savoy Academy—to tend to the needs of its guests.

"The very top end of the market is not usually served by commercial airlines, as they usually fly private," explains Peter Baumgartner, Etihad's Chief Commercial Officer. "They are looking for the ultimate in space, privacy and comfort. Etihad Airways' butlers, in-flight chefs and food and beverage managers are not marketing gimmicks. They are delivering on our guest and brand promises."

The unique facilities offered by The Residence have also secured Etihad a position at the forefront of the luxury market. "It

has differentiated Etihad Airways' brand from its direct competition in a way that no advertising campaign could have done," Baumgartner notes.

New York was the first U.S. destination for the specially equipped A380, which began flying between Abu Dhabi and New York on Nov. 23, as part of Etihad's double daily service. The addition of the A380 allows the airline to match capacity with an increase in demand on the popular route.

Etihad's luxury offerings are not limited to The Residence alone: The A380 also features nine First Apartments and 70 Business Studios. The configuration of the apartments allows for the industry's first-

ever single-aisle cabin on a wide-body aircraft. Each apartment offers a private living space with an LCD TV monitor, a personal vanity and a leather lounge chair and ottoman that open into an 80.5-inch fully flat bed. First Apartments provide a 74 percent increase in space over the airline's other First Class suites, and flyers gain exclusive access to a shower room.

The Business Studios are located on the upper deck of the A380, and provide guests with a 20 percent increase in personal space, direct aisle access and a fully flat bed up to 80.5 inches in length. The Residence, the First Apartments and the Business Studios are all equipped with in-seat massage and a cushion control system, while

First Class and Business Class guests also have access to The Lobby, an exclusive bar and lounge area.

To take the discerning passenger's experience to the next level, Etihad conducted extensive consumer research to deliver these finer details. "The A380 is one of the greatest aircraft currently in the skies, and we have invested seven years in creating a cabin interior that delivers what our guests have told us they want when they travel with us," Baumgartner says. "At Etihad Airways, our goal is to reinvent the future of travel."

#### Forging New Paths

Gone are the days when consumers might accept an undistinguished product, particularly when it comes to global business travel. With a wealth of information at their fingertips, travelers require choice, flexibility and an experience tailored to their needs.

Always at the forefront of innovation, All Nippon Airways (ANA) has responded

> to these demands in a number of ways. Earlier this year, Japan's largest

airline celebrated its inaugural Houston-to-Tokvo flight. At the ribboncutting unveiling the new route at Houston George **Bush International** Airport, Osamu Shinobe, President and CEO of ANA, said: "We aim to provide our customers with greater choice and flexibility for destinations and travel schedules. As a key market for the U.S. oil and gas industry, expanding service to Houston—the 10th North American destination for ANA—emphasizes our desire to make travel more convenient. Additionally, this new route will allow us to improve access between Asia and Latin America." ANA recognizes

that Houston is an integral gateway to the southern half of United States and Latin America—areas where the airline has previously had less connectivity than it would like. In fact, adding further North American destinations is a key part of ANA's long-term growth strategy, as the airline continues to bolster the position of Narita International Airport and Haneda Tokyo International Airport as dual international hubs between North America and Asia.

An upgraded and expanded fleet will help to service these new routes. Last year ANA placed an order for 70 new planes—its largest ever—including 20 Boeing 777-9x wide-body jets, six Boeing 777 aircraft, 14 medium-size Boeing 787-9 aircraft and 30 single-aisle



Measuring 125 square feet, The Residence by Etihad is a private threeroom suite in the sky, complete with a double bed and living room.





jets from Airbus' A320 family. The 1.7 trillion yen order was partly a response to an increasing number of passengers expected to visit Japan in the run-up to the 2020 Summer Olympics in Tokyo.

ANA's growth strategies are already paying off, and profits are soaring. This year both passenger numbers and revenue exceeded projections, as ANA captured very strong demand for travel to Japan from all regions, as well as increased business demand. In addition to launching the new Narita-to-Houston route in June and Naritato-Kuala Lumpur service in September, ANA has also improved convenience for passengers using Japan to connect North American and Asian destinations by increasing the frequency of flights departing Narita for Singapore and Bangkok. Flight frequencies were also increased on the Narita-to-Honolulu route in July to capture demand.

Remaining competitive in the current market requires more than

simply offering increased convenience, however. Comfort, luxury and hospitality are also key factors. ANA collaborates with some of the best chefs in the world to create a fine dining experience in the sky, with a range of options for the international traveler. The airline has also responded to the growing need for halalcertified meals among overseas passengers by expanding halal-certified in-flight options on certain routes.

This exceptional level of service is a crucial part of ANA's ongoing success. As a Japanese airline, ANA strives to provide service based on the Japanese concept of omotenashi (hospitality), as well as the advanced technology and high-quality products for which Japan is

known. ANA is also the largest operator of the Boeing Dreamliner 787 (they currently have 42 aircraft in service) and offers fully flat staggered Business Class seats on their long-haul U.S. and European flights.

Committed to the winning combination of continually responding to the practical needs of its travelers, and offering service imbued with the unique spirit of Japanese hospitality, ANA continues to meet—and even exceed—its sky-high potential.

#### The Uber of Air Travel

For some, the most logical and productive way to travel for business remains to charter an airplane all their own, and that option is now more attainable than ever before. "JetSmarter is unique because we're making private aviation accessible to the masses," says CEO Sergey Petrossov of the company he founded in 2012. "We want private aviation to be accessible, and we want air travel to become fun again."

Simply put, JetSmarter is a mobile marketplace and booking platform that enables the user to charter private jets. Available on both iOS and Android devices, the app provides access to over 3,000 airplanes of all makes and models that fly to over 170

countries. While that alone is an attractive service for the traditional private-jet customer, it's the membership program that has earned JetSmarter their reputation as the "Uber of the skies."

The exclusivity of the product JetSmarter offers makes it much more than just a booking app, Petrossov says. "Our products, which include JetDeals, JetShuttle and JetCharter, are unique to our company," he explains. "We reference ourselves as a market maker because our products—the airplanes—are exclusive to us."

For \$9,000 a year, members have access to more than 30,000 flights that have been pre-purchased by JetSmarter. Members can choose between JetDeals (last-minute one-way trips exclusive to JetSmarter that take advantage of flights that have been chartered and would otherwise make the return journey empty) or JetShuttle (which offers shared scheduled

> flights between major cities), both of which are free for JetSmarter members.

"At a minimum, we've lowered the entry-level price 15 times," Petrossov says. "If you look at it in charter value, some consumers fly up to a million dollars' worth of flights annually by simply paying one \$9.000 fee and being open to sharing flights with other people."

While JetSmarter won't disclose membership numbers publicly yet, Petrossov says that they will have operated more than 10,000 flights by the end of the year, with an average occupancy of five passengers per flight. All told, the average member checks the app 3.2 times daily. "Keep

Last year ANA expanded its fleet with an order of 70

new planes; the mobile marketplace JetSmarter makes private aviation accessible to all business travelers.

in mind that a lot of the same people are flying over and over again," he adds. "In 2016, we intend to potentially do anywhere between three to five times that passenger count."

Members can also receive discounted prices on the JetCharter service—JetSmarter's most exclusive product—which currently operates in 170 countries and allows the business traveler to create a custom charter itinerary.

In the future, Petrossov expects the company's most accessible products. JetDeals and JetShuttle, to become available worldwide. Currently, JetDeals is available in the U.S. and Western Europe, and will soon be rolled out in the Middle East. The next step is to roll out more JetShuttle flights in the U.S. and introduce them to Western Europe and the Middle East. Next year the company plans to unveil both products in Asia and South America.

"We're focused on global expansion and are slowly starting to ramp that up," says Petrossov, who hints that there will be a big funding announcement early next year. "The most disruptive product that we see down the road is the JetShuttle product, because that's what is going to really provide reliability to consumers as an alternative to airline travel." — Alice Wasley



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# Opening Remarks

# China's New Silk Road Dream

By Michael Schuman

An ambitious feat of diplomacy and engineering may not take the country where it wants to go For centuries the Silk Road, stretching across deserts, steppes, and mountains, linked the imperial dynasties of China with Europe. Chinese rulers used the thoroughfares to expand their power and influence deep into Asia. Today a newly assertive Chinese empire—this time, a communist one—is undertaking a gargantuan project to re-create those ancient trade routes and the political and economic clout that came with them.

Nicknamed One Belt, One Road, China's plan is to construct roads, railways, ports, and other infrastructure across Asia and beyond to bind its economy more tightly to the rest of the world. The scheme was honored with a prominent place in the country's latest five-year plan, released in late October, and has become a favorite subject of top leaders, who sell it as an international initiative to foster peace and prosperity. The program will "answer the call of our time for regional and global cooperation," President Xi Jinping proclaimed during a speech at the Boao Forum in March.

In reality, though, One Belt, One Road is all about China. The program's designed to forward Beijing's strategic and economic interests around the world—at the expense of the West's—and offer lucrative opportunities abroad for Chinese companies enduring a slowdown at home. In the end it's a boondoggle that could set back China's reform, expose its banks to financial risk, and alienate the very nations it's meant to woo.

Beijing has been using infrastructure projects to bolster its influence among needy nations for some time, most notably in Africa. But One Belt, One Road takes those ambitions to another level. One arm, the Silk Road Economic Belt, will pass from China to Europe through Central Asia, and the other, the 21st Century Maritime Silk Road, will better link the country to Southeast Asia, the Middle East, and Africa along vital sea lanes. Although the exact details remain fuzzy, some estimates of the program's scale boggle the imagination. In a May speech, China's ambassador to the U.K., Liu Xiaoming, boasted that the program would involve 60 countries with almost two-thirds of the planet's population.

China has a long list of reasons to promote this grand vision. It's in the interest of the country, as one of the world's biggest trading nations, to reduce the costs of transporting goods and secure access to key markets and commodities. The infrastructure push



could also boost China's role in global finance. Beijing and the financial institutions it backs are gushing loans and investments for the initiative. Last December the country inaugurated a \$40 billion Silk Road Fund to invest in One Belt, One Road projects. China's state banks are already lending big to countries along the new routes. The expansion of China-backed finance could propel Beijing's quest for greater international stature for the renminbi, which it's promoting as a global reserve currency.

This powerful concoction of trade and finance could draw more emerging economies closer to Beijing, including in regions where the West would like to gain influence, such as Central Asia. For many developing countries in desperate need of upgraded roads, ports, railways, and power systems, Chinese assistance is almost irresistible. "Anytime the Chinese dangle renminbi in the face of foreign officials, they kind of swoon," says Scott Kennedy, director of the Project on Chinese Business and Political Economy at the Center for Strategic and International Studies in Washington. "All along the Silk



Road they have opened their hearts to the Chinese."

Beijing's initiatives may lead to a sort of "development competition" between the U.S. and China, in which Washington feels compelled to increase its own assistance and financing for the emerging world, as has already happened in Africa. Still, the news for the West isn't all bad. By improving infrastructure, China could help lift growth in poor nations—and the entire global economy. The construction projects will potentially create business for engineering and other companies from the West, too. "We shouldn't freak out too much about what the Chinese are doing," Kennedy says. "There's a huge strategic opportunity for the U.S."

That's if the U.S. can take advantage of it. One Belt, One Road is geared ultimately to boost Chinese industry. At home, Beijing is attempting to decrease the economy's dependence on astronomical levels of credit-driven investment for growth, and that spells tougher times for Chinese construction companies, equipment makers, and other businesses that had gorged on the country's building boom. A key motivation behind

Beijing's big infrastructure schemes is to find fresh outlets for these companies overseas. China understandably expects that its own companies will take the lead in planning, constructing, and supplying projects it's also funding. In fact, a study by London-based merchant bank Grisons Peak showed that 70 percent of the overseas loans it examined from two Beijing policy banks were made on the condition that at least part of the funds be used to purchase Chinese goods.

Even with China's banks and special funds running full tilt, it's uncertain where all of the money will come from to finance the Silk Road scheme. A report on Chinese state media says the number of projects under its umbrella has already reached 900, with an estimated price tag of \$890 billion. With many projects destined for economically weak countries with dubious governance, China's money could get lost to corruption or wasted in poorly conceived plans. Chinese companies already have a suspect record of implementing such projects.

According to data compiled by the American Enterprise Institute (AEI), about a quarter of all overseas

#### Beijing wants its own companies to lead in planning and building projects it's paying for

investments and construction and engineering projects undertaken by Chinese companies from 2005 to 2014—worth \$246 billion—have been stalled by snafus or failed. Almost half were in transport and energy—just the sort of projects that will be key to One Belt, One Road. "China is currently trying to create the story of an economic success, and if it has some public failures, that could be damaging to its brand," says Homi Kharas, deputy director of the Global Economy and Development program at the Brookings Institution.

Nor is there any guarantee that China's cash will win it camaraderie. In Africa, where China has a long record of investment, a Gallup poll released in August showed the approval rating of Beijing's leaders had dropped among Africans in 7 of the 11 countries included in the survey. "The goodwill expressed at the highest levels doesn't trickle down into warm sentiments," says J. Peter Pham, director of the Africa Center at the Atlantic Council, a think tank based in Washington. "Chinese soft power is relatively weak."

China's infrastructure bonanza also presents dangers to its own economy. Local governments are jumping on the bandwagon, announcing a slew of projects aimed at connecting their provinces to Silk Road routes. In an April report, HSBC estimated that the projects already planned within China could total \$230 billion. That may help sustain growth in the short run but delay the economy's crucial transition away from investment-led growth, which would lead to even harder times in coming years. In fact, One Belt, One Road is in its essence the export of China's old growth strategy-using state banks to fund investment by Chinese companies on foreign soil.

None of these concerns is likely to matter in the end. China's international infrastructure push is, after all, a diplomatic endeavor, one to which the reputation of the state has become intimately tied. "The Chinese are going to work very hard—throw money at any and all problems—to make sure prized 'belt and road' projects all work out," says Derek Scissors, an AEI scholar. That could turn China's grand Silk Road dreams into an even grander disappointment. 

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#### Bloomberg View

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Bloombergview.com

## Obama Must Lead, Not Scold, on Refugees

The xenophobia is reprehensible, but the president needs to bring reason into play



The debate over allowing Syrian refugees into the U.S. isn't one of the country's prouder moments. And that's not only because of xenophobic politicians and hysterical news reports. Those on the right side of history need to do a better job articulating their argument. They include President Barack Obama, whose impatience with legitimate security questions doesn't serve a cause important to both American values and national security.

The White House could certainly be more considerate of the requests of many governors for better information about refugees in their states. Why not convene a meeting with governors from both parties on all sides of the question? The administration could show that it takes their misgivings seriously, is open to improvements, and, most important, wants to bring the discussion back to a rational level.

Such a discussion might not succeed in persuading those governors who've been most adamant about barring the refugees. But it could at least defuse some tension and maybe allow some salient facts that are now drowned out by the rhetoric to break through. For example, the screening process for refugees usually takes two years and involves many government agencies, including the National Counterterrorism Center. In addition, every applicant undergoes in-person interviews, has a check against the fingerprint databases of both the FBI and the Defense Department, and is subjected to what the State Department calls the highest level of security screening.

Americans should know all this, and they should also be asked to consider this question: Why would Islamic State try to infiltrate the U.S. through a bureaucratic logiam?

The president has some potential allies on the right who could help in this debate. Evangelical groups such as World Relief and the National Association of Evangelicals, which see resettling the world's war victims as a central mission, have split with religious Republicans such as Mike Huckabee on the issue.

Finally—and separately, though it's related to the debate over Syrian refugees—the White House should be prepared to consider broader reforms, such as tightening the State Department visa-waiver program for some European citizens. A bipartisan group of senators rightly says this is a greater security threat than refugee resettlement. Addressing this vulnerability would certainly be a better use of Congress's time than passing the legislation the House approved on Nov. 19, which would essentially halt the vetting process.

None of this is to excuse the deplorable rhetoric and nativism at the extreme of the anti-refugee movement. Yet reaching out to his reasonable opponents is the best thing Obama could do, both for U.S. security interests and for the Syrians who deserve America's help.

# The Long History of Mali's Bloody Friday

The African nation has been plagued by radicals, separatists, coups, and corruption

A string of events beginning four years ago brought terrorists to the Radisson Blu Hotel in Bamako, Mali's capital, on Friday, Nov. 20. In 2011 combatants in Libya's civil war channeled arms and fighters to bolster separatists in Mali's north. They were then joined by radical Islamists such as the Algeria-based al-Qaeda in the Islamic Maghreb and Ansar Dine, a homegrown group that seeks to impose Islamic law. Their success prompted a March 2012 coup by soldiers frustrated with Mali's civilian government. With Bamako threatened by separatists and Islamists, France intervened; United Nations peacekeepers are now in place.

While some separatists have signed a peace deal with a restored civilian government, this pact has been endangered by numerous violations, including the government's failure to keep its commitments and control militias. The Radisson assault, by gunmen claiming loyalty to al-Qaeda, is just the latest attack in the south, where most Malians live. The growing instability bodes ill for neighbors such as Niger, Algeria, and Mauritania.

Mali is one of Africa's poorest nations. Almost 65 percent of its territory is desert, and about one-fifth of its people are "food insecure"—especially in the neglected north. Generous foreign aid has done more to advance corruption than to generate self-sustaining growth. Even as Mali has enjoyed successful democratic transitions, it's suffered from poor governance.

The government could start its reforms by reaching an agreement to reschedule last month's postponed regional elections and by carrying out recommendations to improve public services. Recent scandals—such as the off-budget 2014 purchase of a \$40 million presidential jet—argue for tying development aid to a crackdown on corruption and money laundering.

That said, for now there's no escaping the need to support Mali's security forces and beef up UN troops. There's little reason to hope that the Nov. 20 jihadist attack will be the last. 

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# **JTOGRAPH BY MATT EICH FOR BLOOMBERG BUSINESSWEE**

# Global Economics

November 30 - December 6, 2015

# From War Zone To Workplace

- ► The recovering economy is helping vets find jobs
- ► Few knew how "to talk to civilian employers about their skills"



In June 2008, Jamuel Breeze moved to Atlanta from Newport News, Va., where he'd worked at Fort Eustis as an Army reservist with the rank of specialist. Breeze was 24, single, and ready for civilian life after four years of active duty, including two tours in Iraq. He figured Atlanta would have plenty of jobs, even for someone without a college degree. His timing was terrible. The financial crisis had started, the economy was shrinking, and companies were shedding workers faster than they had in decades. "I couldn't even find a job at McDonald's," says Breeze.

His monthly income—\$500 in disability payments for post-traumatic stress, plus about \$200 from the Army Reserve—was hardly enough to pay rent, let alone food, gas, and utilities. By December, Breeze had moved back to Virginia, where he spent the next several months sleeping on friends' couches, trying to figure out what to do with his life. "I wasn't on the streets, but technically I was homeless," he says. "I was pretty lost."

Breeze is one of 3.7 million U.S. military veterans who served after Sept. 11 and are now civilians. Three-quarters enlisted without a bachelor's degree. Nearly a third of them are disabled. In an economy that offers few opportunities to the young and uneducated, many veterans were at a statistical disadvantage the minute they were discharged.

Traditionally, veterans have had higher rates of employment compared with the general population. But the opposite has been true for the generation dubbed Gulf War-era II veterans by the government. By early 2011 the group's unemployment rate hit 15 percent. For vets aged 18 to 24, it reached 30 percent by October 2011.

Recent data, however, suggests a turnaround. From October 2014 to October 2015, 486,000 Gulf War-era II vets got jobs. Since January the group's unemployment rate has fallen from 7.9 percent, well above the national average, to 4.6 percent, half a percentage point below it. More than 80 percent of the group either have jobs or are actively looking for one.

"It's an extraordinary change," says Jonathan Rothwell, a research fellow at the Brookings Institution who focuses on labor market economics. It's still too early to know whether this marks a lasting change. The data from the Bureau of Labor Statistics isn't seasonally adjusted, and it's based on a monthly survey of only a few thousand vets, so it's prone to choppiness. Still, this past year has produced the best pace of job gains ever for vets who served after Sept. 11.

The improvement in the overall labor market deserves most of the credit, says Valerie Wilson, an economist at the Economic Policy Institute. Over the past 12 months the U.S. economy has added almost 3 million jobs, reducing the total unemployment rate by a full percentage point, to 5.1 percent. Wilson says employers have dug deeper into the ranks of the unemployed to find candidates. Many have been veterans.

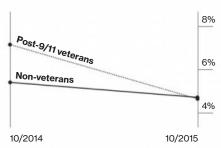
It's also likely that recent initiatives to help veterans are paying off. "The amount of effort by the government and by public and private entities to ensure veterans are getting a shot at being employed has more than doubled or tripled," says Darrell Roberts, executive director of Helmets to Hardhats, a union-backed nonprofit that helps vets find work in the construction industry.

The military used to provide only a three-hour crash course in transitioning to civilian life, consisting of 800 PowerPoint slides. Service members can now spend more time planning for life after the armed forces before leaving the military. The Obama administration has created a job bank to connect vets with employers and offers companies tax credits for hiring jobless veterans.

#### Hooah! You're Hired

Unemployment rate, 18- to 34-year-olds

The departments of Labor and



Veterans Affairs have also made changes. "One of the early things we realized is that people were leaving the military without the ability to talk to civilian employers about their skills," says William Spriggs, chief economist at the AFL-CIO and former assistant secretary for policy in the Labor Department during Obama's first term. Simple fixes helped. The occupational codes the military uses to classify technical skills were changed to match those used in the private sector. That way, vets can describe their skills on job applications in terms employers can understand. Post-9/11 vets looking for jobs in the technical trades have been able to use the GI Bill for apprenticeships and training. And at the end of last year, the VA unified employment programs for vets at a number of federal agencies into a single portal. "For most of these veterans, it's the first time they're looking for a job and many felt it was an Easter egg hunt," says Rosye Cloud, the VA's senior adviser for veteran employment.

Companies have also focused on hiring veterans. In 2011, **JPMorgan Chase**, **AT&T**, and **Cisco Systems** pledged, along with eight other companies, to hire 100,000 veterans collectively. They've since hired nearly 300,000. On Nov. 2 the coalition, which now includes more than 200 compa-

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Darrell Roberts,

executive director.

Helmets to Hardhats

effort by the government and by public and private

nies, changed its goal to hire a million vets.

This generation of vets is now more attractive to employers. Many have spent the last few years earning degrees thanks to an improved GI Bill. After two years at a community college, Jamuel Breeze earned his bachelor's degree from Old Dominion

University. He's now a sales associate at **Macy's** in Hampton, Va. "I'm at a company where there's room to grow and really learn the retail side of the business," he says.

More than 10 percent of veterans aged 20 to 24 remain jobless. A Wounded Warrior Project study suggests that 12.5 percent of its members are still without work. "These veterans fought an incredibly dangerous war," says Hannah Rudstam, who researches disability and employment at Cornell. "Businesses are still learning how to accommodate veterans suffering a very complex set of disabilities."

—Matthew Philips, with Josh Eidelson

**The bottom line** Veterans of post-9/11 conflicts were experiencing jobless rates as high as 30 percent before the situation began to improve.

#### **Monetary Policy**

#### Mexico and Inflation Have Broken Up

- The sliding peso has not led to increased prices
- "We had to see it to believe it," says an economist

At **High Life**, an upscale menswear store in Mexico City's Polanco neighborhood, hints of an economic change that's setting the country apart from the rest of Latin America are on display along with the racks of Hugo Boss and Canali suits. Despite a sharp depreciation of the peso this year, store manager Javier Sánchez says the retailer has refrained from passing on

to consumers all of the higher costs of imported merchandise for fear of driving them into the arms of competitors. The profit margin is getting squeezed as a result, which is why the business has discontinued some special promotions. "A year ago we had the luxury of offering a discount to encourage a sale," Sánchez says.

Pricey European suits may not figure among the goods and ser-

vices tracked by Mexico's consumer price index, but they're still evidence of a surprising and little-understood transformation that benefits the well-heeled and working class alike. No longer does a plunge in the value of the peso trigger an automatic increase in consumer prices. The most recent data suggest it causes almost no inflation at all.

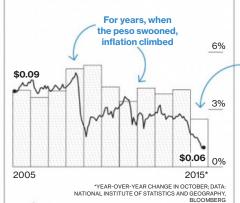
Mexico's top officials began drawing attention to the change more than a

FIGURES NOT SEASONALLY ADJUSTED; DATA: BUREAU OF LABOR STATISTICS

#### Global Economics

#### **Mexican Decoupling**

Annual inflation rate / Price of one peso in U.S. dollars



◀ vear ago, but economists and investors were skeptical. As Credit Suisse economist Alonso Cervera says, "we had to see it to believe it."

The evidence has accumulated over the past 12 months: As the peso dropped 17 percent against the dollar, Mexico's inflation rate fell to 2.5 percent through October, a record low. According to Bank of America, the exchange rate's impact on prices-what economists call the pass-through ratiois now almost imperceptible, with each 1 percent decline in the value of the peso against the dollar fueling less than 0.05 percent of inflation. Two decades ago the impact was 10 times higher, with consumer prices soaring more than 20 percent in just four months after the government let the currency trade freely.

The central bank released a study in early November showing Mexico has the lowest pass-through ratio among major Latin American countries. Without having to worry about inflation, monetary authorities can avoid the classic trap that afflicts so many developing nations: having to raise interest rates-and choke off economic growth-every time financial turmoil causes a selloff in the currency. Mexico has held its benchmark rate at a record low of 3 percent since last year. In contrast, Brazil has raised interest rates 16 times in the past two and a half years, in a futile attempt to shore up its currency and curb an inflation rate that's topped 10 percent in 2015.

In August the daily Reforma published an op-ed by Mexico's central bank governor, Agustín Carstens, in which he declared that the

peso-inflation link is, by and large, dead. Theories about the cause of death abound. Many credit a succession of policy changes, some of which date back to the mid-1990s: Mexico's central bank was given autonomy; and mon-

has moderated, despite the peso's depreciation

etary authorities now This year inflation target inflation, rather than an exchange rate level. Others point to increased competi-

tion in the retail industry, which makes it harder for businesses to pass on the higher cost of imports. Companies are even more reluctant to raise prices in an economy where demand is weak. Mexico's gross domestic product is projected to expand 2.3 percent this year, not even half the long-term goal set by President Enrique Peña Nieto when he pushed through legislation in 2014 to liberalize the energy and telecommunications industries.

Alberto Ramos, chief Latin America economist at Goldman Sachs, says that while the link between the peso and inflation appears to have been severed, it's too soon for Mexico's leadership to "do a victory lap." If the economy is growing strongly the next time the peso takes a dive, businesses such as High Life might be emboldened to push up prices, which could stoke inflation. —Ben Bain and Eric Martin, with

The bottom line Mexico has almost no inflation, despite the peso's 17 percent slide against the dollar, a sign its economy is maturing.

Brendan Case and Ralph Cope

#### **Elections**

#### **No Representation** Without Sanitation

- In India, some local candidates are required to have lavatories
- "If a person doesn't have a toilet, they're setting a bad example"

After years as a volunteer at a labor union in northern India, Kamlesh, who goes by only one name, decided she wanted to get into politics. She collected the signatures and affidavits she needed to run for her village council. That didn't turn out to be enough. An election commission rejected her

candidacy because the one-room home her family shares with two other households doesn't have a toilet.

Kamlesh's home state of Harvana is the fourth in two years to pass a law making it tougher for villagers to stand for election in panchayats, the lowest tier of representative government in the world's most populous democracy. Candidates must have no pending criminal charges, no outstanding electricity bills, and a toilet. "I barely have enough money to put food in my children's bellies-I certainly can't afford to spend money on defecation," Kamlesh says. The 32-year-old mother of two earns about \$80 a month doing odd jobs. "I don't need a toilet to understand my community's problems."

The requirement has raised questions about elitism: If all of India's 29 states adopted similar laws, more than 600 million people would be barred from holding office. Three of those that have made toilet ownership mandatory for candidates are governed by the ruling Bharatiya Janata Party of Prime Minister Narendra Modi, who last year launched a nationwide campaign to build as many as 60 million toilets by the 150th anniversary of Mahatma Gandhi's birth, in 2019. Water contaminated by human waste causes illnesses such as diarrhea and cholera. which cost India about \$54 billion a year, according to the United Nations Children's Fund.

The panchayat elections in Haryana, initially set for June, were delayed after the law was challenged in India's Supreme Court by Savita Devi Kaidan, who, like Kamlesh, had her candidacy rejected because her home has no lavatory. Kirti Singh, one of Kaidan's lawyers, has argued that Article 14 of India's constitution guarantees every person the right to contest elections. Singh, Attorney General Mukul Rohatgi, who's a Modi appointee representing Haryana in the case, and a BJP spokesman all declined to comment.

Jack Sim, founder of the World Toilet Organization, calls the Harvana statute "innovative and exemplary" and would like to see it adopted more widely. "If a person doesn't have a toilet, they're setting a bad example as a leader in public office," says Sim, whose Singapore-based nonprofit works to improve sanitation

in more than 50 countries.

While the laws may be well-intentioned, they could create further divisions in a society riven by class and caste, says Anirudh Krishna, a professor of public policy and political science at Duke University: "This all harks back to the image urban India has of rural India—that it's backward, incompetent, and unable to make their own decisions, which just isn't true."

India amended its constitution in 1992 to formalize the power of village councils that have governed rural life for centuries. The move recognized panchayat elections and set quotas for representation of women and people on the lower rungs of the country's ancient caste system. Upholding Haryana's law would mark a setback to efforts to spread democracy to poorer villages, says Nikita Sud, an associate professor of development studies at the University of Oxford. "One person, one vote becomes one clean person, one educated person. Then it's not democracy any longer," Sud says.

On a tour of her village, Kamlesh points to a six-bedroom bungalow and says, "Our current village leader lives in this palace and has no idea

'I barely have enough money to

put food in my

who we are, let alone what our needs are." Bahadur Singh, the panchayat, declined to comment.

Kamlesh says she's applied for a toilet through Modi's program but so far has heard nothing. If the election law stands, she'll pay for one herself, she says. "That money will come from somewhere else, likely from our school fees or food bills. We will have to make sacrifices."

—Kartikay Mehrotra

**The bottom line** India's Supreme Court will hear a challenge to a state law that bans Indians without a toilet from seeking office.

#### Conflict

#### A Prince Militarizes the United Arab Emirates

- ► The Abu Dhabi royal loads up on F-16s and other weaponry
- "You need to either put out the fire or leave the neighborhood"

Sheikh Mohamed bin Zayed Al Nahyan, the crown prince of Abu Dhabi and de facto leader of the United Arab Emirates, controls 6 percent of the world's oil and the second-biggest sovereign wealth fund after Norway's. He's spent three decades beefing up the small nation's army and air force.

making him one of **Lockheed Martin**'s best customers for its F-16 fighter jets. The U.A.E. is the world's fourth-biggest importer of military hardware, according to consultants IHS.

Sheikh Mohamed, 54, has put the military to work: It's joined the Saudi war against Shiite rebels in Yemen, flown sorties against Islamic State in Syria, and struck at jihadis in Libya. The combativeness stems from his concern about a U.S. retreat from the Middle East, say analysts and current and former U.S. and European officials. Sheikh Mohamed is on the offensive against forces he sees as threats, from Iran to the Muslim Brotherhood.

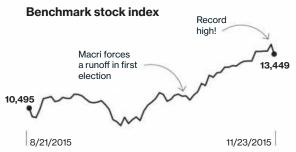
Abu Dhabi and its sister emirate Dubai are the places where investors go to escape the deadly politics of the Mideast and focus on making money. The policy of arming the U.A.E. and joining the region's conflicts may trigger attacks on the glittering towers and malls of this tiny country, some observers fear. Says one Western official: "The situation is quite fragile because they're becoming more and more a target. They're perfectly aware of this." He went on to characterize the transformation of the U.A.E. as going from the Switzerland of the Persian Gulf to its Sparta.

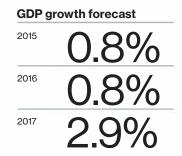
The prince's supporters say he has no choice but to join in the war against the Iran backed Vemoni robots. "The



#### **Argentina Great Expectations**

Mauricio Macri, a pro-market conservative, beat the Peronist candidate in a runoff for president on Nov. 22. His victory marks the end of the left-wing rule of Cristina Fernández de Kirchner and her late husband, Néstor Kirchner, and delights investors.





DATA: BLOOMBERG SURVEY OF ECONOMISTS

■ U.A.E. couldn't afford to just sit there and pretend to be Switzerland and have the whole region burn down," says Mishaal Al Gergawi, managing director of the Delma Institute research center in Abu Dhabi. "You need to either put out the fire or leave the neighborhood. But countries don't have wheels." Through an aide, the prince declined to be interviewed.

Sheikh Mohamed's older brother, Sheikh Khalifa, is officially president of the U.A.E. He's scarcely been seen in public since suffering a stroke in January 2014. Sheikh Mohamed has been the main policymaker on security issues for decades. In 1990, when U.S. troops were massing in the Persian Gulf to fight Saddam Hussein, he drove across the dunes to meet an American general for lunch, stashing a rifle under the front seat in case he was attacked.

A graduate of the Royal Military Academy at Sandhurst, the prince is "very knowledgeable about military equipment," says Bruce Riedel, a senior fellow at the Brookings Institution who spent 30 years at the CIA and served on the National Security Council. "He wants to have a military force that can at least hold any foreign aggressor until help arrives from the U.S."

Chuck Horner, the former U.S. Air Force general who met Sheikh Mohamed for lunch in 1990—and spotted the hidden rifle—credits the prince for opening up U.A.E. bases to U.S. forces. In 1999, Horner helped Lockheed Martin secure the sale of 80 F-16s to the U.A.E. "They got the most modern F-16s in the world," Horner says.

The U.A.E. doesn't reveal the size of its military. Omar Lamrani, a military analyst at Stratfor, a consultant on security issues, estimates that it has 60,000 troops in its army, air force, and navy. Many have seen combat in Afghanistan. Last year, the U.A.E. initiated a draft for men.

Sheikh Mohamed had a strong relationship with President George W.
Bush. There's been a shift, however, under President Obama. Dennis Ross, who served on Obama's National Security Council, says when the U.S. went along with the ouster of Egypt's Hosni Mubarak in 2011, Sheikh Mohamed "was very upset" and asked if this was how the U.S. treated a longtime friend. The prince was frustrated with

## Where Defense Is a Priority

2014 military spending as a percentage of GDP

Oman	11.8%
Saudi Arabia	10.8%
South Sudan	8.3%
4 Libya	8.0%
<b>⑤</b> U.A.E.	5.7%
Algeria	5.5%
Angola	5.2%
Israel	5.2%
Rep. of Congo	5.0%
Azerbaijan	4.8%

the diplomatic outreach toward Iran that led to July's nuclear accord, says a former Obama administration official. Gulf Arab leaders worry Iran could expand its reach once sanctions are lifted.

Like his father, who founded the U.A.E., the prince has shown little tolerance for

Islamists. The U.A.E. has sent billions of dollars to Egypt to support army chief Abdel Fattah al-Seesi after he toppled the president, a prominent member of the Muslim Brotherhood, in 2013. The Brotherhood, which advocates Islam via the ballot box, is seen as an especially insidious threat to the U.A.E.'s absolute monarchy. Despite numerous attempts by Arab regimes to outlaw and crush the Brotherhood, it continues to exert great influence.

Last year, the U.A.E. designated more than 80 groups as terrorist organizations, including some that are legal in the U.S. and the U.K. The

U.A.E. has also beefed up its internal security force. The buildup, says Anthony Cordesman, a military analyst at the Center for Strategic and International Studies in Washington, "isn't visible to most people."

Since the U.A.E. joined the war in Yemen, images of the prince have been all over local media. In one he holds hands with relatives of fallen soldiers. In another he kisses the forehead of a young man lying on a hospital bed in a bloodstained gown. The U.A.E. has suffered dozens of casualties in the war. A day of remembrance for the fallen, Martyrs' Day, was added to the U.A.E. calendar this November, wedged between the main holy days and the start of the Dubai Shopping Festival.

The U.A.E. has remained free of the terror attacks that have unsettled Saudi Arabia, Kuwait, and Bahrain. There's been no business exodus, though privately executives say they're closely monitoring the foreign policy shift.

Ludovic Subran, chief economist at Euler Hermes, the big insurer of trade credit, discussed the repercussions of the U.A.E.'s foreign policy at a Nov. 5 economics conference in Dubai. He said the U.A.E. is right to assert itself: "The external pressures are becoming harsh." But, he added, the day that there is one terrorist attack, it will be "a major drawback for the construction sector, for the tourism sector, hospitality management, and global labor mobility, because expats will start going back" home.

—Nafeesa Syeed and Ben Holland

**The bottom line** The U.A.E. has purchased state-of-the-art fighter jets, trained a military of 60,000, and made service in the armed forces mandatory.

Bedited by Christopher Power and Cristina Lindblad Bloomberg.com

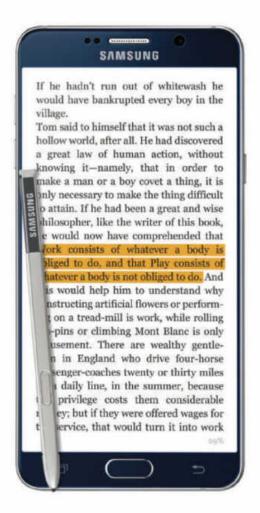
The prince

## SAMSUNG

### TEXT.



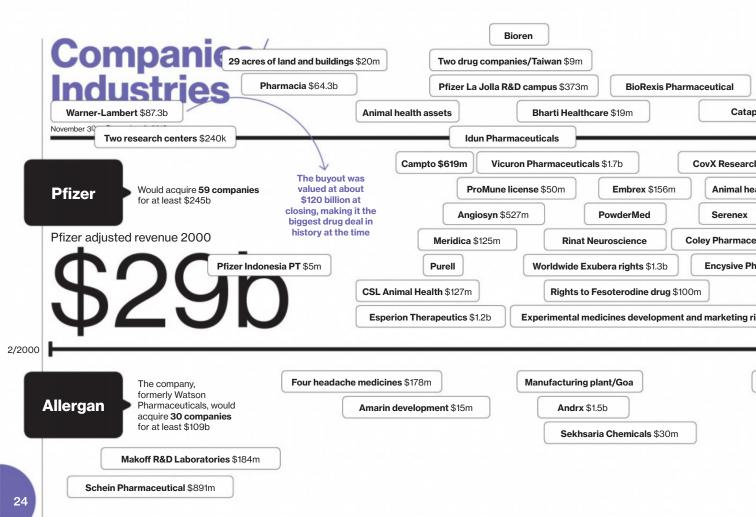
#### BOOK.



# Galaxy S6 edge +

# Galaxy Note5

Choosing between the beautiful Galaxy S6 edge+ with over 3.6 million pixels on the largest-ever dual edge display and the powerful Galaxy Note5 with Multi Window and the most advanced S Pen yet is a textbook case of a no-brainer. You're right either way.



# Pfizer's \$160 Billion Change

- ▶ Its deal with Allergan, the biggest drug merger ever, is all about finding a cheaper tax home
- ▶ Drugmakers may "set aside...loyalty to America for their more immediate loyalty to shareholders"

Pharmaceutical companies are always preoccupied with such issues as the number of new drugs in their research pipelines or the legal protections for their patented medicines in the developing world. But lately, many have been consumed with a different concern: taxes. Just how acutely became apparent on Nov. 23, when **Pfizer** and **Allergan** agreed to combine in a record \$160 billion deal, creating a drugmaking behemoth to be called Pfizer Plc that will sell products from Viagra to Botox.

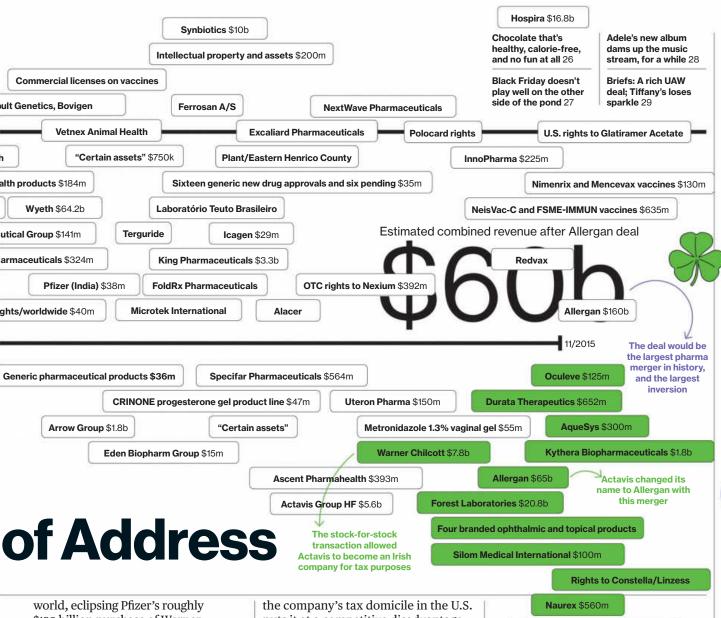
The transaction is a complicated legal maneuver that technically lets Dublin-based Allergan buy its much larger New York-based partner. That will make it easier for the combined company to locate its tax address in Ireland, where corporate income is taxed at less than

half the U.S. rate. If the new entity is able to establish itself abroad for a lower tax rate, a controversial process called an inversion, it will be the largest such move in history.

Pfizer expects to pay about a 25 percent adjusted tax rate companywide in 2015, which it says would drop to about 17 percent the first full year after the Allergan deal closes. Still, the drugmaker's operating headquarters will be in New York, and Pfizer Chief Executive Officer Ian Read will be CEO of the new company. Allergan, formerly known as Actavis, made its own move to Ireland in 2013.

"The lure of tax advantages from a Dublin head office has been a significant factor in driving this deal," says John Colley, a professor at England's Warwick Business School who studies large-scale mergers. "The threat of succumbing to U.S. tax rates has meant that Pfizer has been desperate for a deal outside the U.S."

The number of similar attempts to escape Uncle Sam's tax bite has been growing for a decade, and Congress hasn't been particularly aggressive about slowing the flight. But the sheer size of the Pfizer deal–and the prospect that other U.S.-based drug companies may feel pressure to follow suit-could turn up the heat on lawmakers who haven't been eager to remove the tax avoidance technique from the back burner. Together, barring any divestitures, the conjoined Pfizer Plc will be the world's biggest pharmaceutical company by annual sales, which will be about \$60 billion. It will also be the largest acquisition ever in the pharma



world, eclipsing Pfizer's roughly \$120 billion purchase of Warner-Lambert in 2000.

The U.S. Department of the Treasury has increasingly targeted inversions, most recently in November, when it announced it's reducing the tax benefits of inversions by limiting the ability of an inverted company to transfer its foreign operations to the new foreign parent without paying U.S. tax. At 35 percent, the U.S. tax rate for businesses is the highest in the world, and it's one of the only countries to tax the profits of its corporations wherever they're earned. Ireland's corporate rate is 12.5 percent. The U.S. Treasury has derailed other proposed inversions, including AbbVie's plan to buy Ireland's Shire for an estimated \$52 billion in 2014. But analysts say that by listing Ireland-based Allergan as the purchaser, the Pfizer-Allergan deal appears structured to avoid U.S. tax inversion rules.

Read, who has long said that having

the company's tax domicile in the U.S. puts it at a competitive disadvantage, reached out to congressional leaders and the White House after the deal was sealed. His pitch: The merger will help the company invest in more innovative drugs, and it will have 40,000 employees in the U.S.

Some top Republicans say inversions are a consequence of high corporate taxes, but Democrats disagree. White House Press Secretary Josh Earnest wouldn't comment directly on the Pfizer deal, but he repeated President Obama's "long-standing concern and outright criticism of companies to pursue this strategy," which amounts to their renouncing their citizenship "while continuing to benefit from all America has to offer."

Democratic presidential front-runner Hillary Clinton went further, saying Pfizer's plan to move its tax address to Ireland would harm U.S. taxpayers. "This proposed merger, and so-called Aurobindo Pharma Australia

**Auden McKenzie pharma division** \$462m

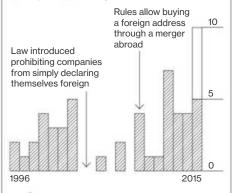
inversions by other companies, will leave U.S. taxpayers holding the bag," she said in a statement. "As president, I will fight to reform our tax system to reward growth, innovation, and job creation here in the United States. We cannot delay in cracking down on inversions that erode our tax base."

The betrothed companies are no strangers to making deals to better their results. Pfizer has made almost 60 acquisitions since 1999, including its \$17 billion purchase this year of Hospira, the maker of generic drugs usually administered in hospitals. New Jersey-based Actavis did about 30 deals over the same period before completing a \$66 billion purchase of drugmaker Allergan in March; it then took on the company's name. The operational

#### **Companies/Industries**

#### **U.S. Corporate Inversions**

☑ Completed □ Pending



headquarters and top executives remain in New Jersey.

Pfizer already employs about 3,200 people in Ireland, where it makes an ingredient used in Viagra. It says it's invested \$7 billion there since 1969. Allergan produces Botox there and employs more than 1,000 people. In all, 140,000 people are directly employed by more than 700 U.S. companies in Ireland, according to the American Chamber of Commerce Ireland.

While Irish Minister for Finance Michael Noonan recently said Allergan and Pfizer were plainly merging for "tax advantages," the government has no problem with the deal because both companies had "substantial" operations in Ireland. "We are not pushing for inversions," says Noonan. The agency charged with winning investment for Ireland "never promotes inversions. It's a decision for the two companies."

Although analysts are waiting to see whether other cash-rich drug companies follow Pfizer's lead, it's not that simple. To qualify as an inversion in the eyes of the Treasury, and reap the tax benefit it brings, a company needs to meld with a foreign entity that's at least 25 percent its size. That means the huge companies that would benefit most from the technique have to snag one of a handful of very big foreign pharma companies.

Bayer, GlaxoSmithKline,
Novartis, Roche Holding, and
Sanofi, the only non-U.S. pharma
companies near or above \$100 billion
in market capitalization, haven't
been eager for deals. And the U.K.'s
AstraZeneca successfully fought back
a \$117 billion hostile bid from Pfizer
last year. For smaller drugmakers,
however, an inversion target may be

easier to find. "Unfortunately, when our corporate tax rate is as high as it is, I think companies feel like they need to set aside their loyalty to America for their more immediate loyalty to shareholders," says Andrew Weisenfeld, a partner at investment banking firm MTS Health Partners.

But Henrietta Treyz, an analyst at Height Securities in Washington, says Congress may reform tax laws to make it harder to invert by 2017. "Given it takes 6 to 12 months to do an inversion deal," she says, "if you're a company that wants to invert, you need to do so right now." — Cynthia Koons and Michelle Fay Cortez, with Jennifer Epstein, Joe Brennan, and Caroline Chen

**The bottom line** To avoid U.S. corporate taxes of up to 35 percent, some drugmakers technically move to Ireland, which has a 12.5 percent rate.

#### Confections

## Taking the Fun Out Of Chocolate

- ► Candy makers are pumping up sales of flavanol extracts
- ► "The science is... done, so getting it to the market should go fast"

It's an idea Willy Wonka's evil twin might have dreamed up: chocolate that's healthy, calorie-free, and no fun at all. Behold, the chocolate pill. Candy makers are stepping up production of nutritional supplements containing flavanols—antioxidants found in cocoa beans—in effect trading the instant gratification of fat-laden boxes of

bonbons for the promise of better health.

#### **Candy Math**

To get the daily dose of 375 milligrams of flavanols that Mars recommends would require eating nine bars of milk chocolate

Barry Callebaut, the world's No. 1 maker of bulk chocolate, is planning flavanol pills that have been approved by European health authorities as a supplement that's beneficial to the heart. And Mondelez International, maker of more than a dozen chocolate brands including Cadbury and Toblerone, is researching the benefits of flavanols for potential future products. They join Mars, which is considering European sales of a range of flavanol capsules and powders and may seek approval from regulators there. Mars's offering, a supplement called CocoaVia, has been available in the U.S. since 2010, and a handful of smaller companies have introduced similar products in recent years. In May, Mars announced a five-year study with Harvard researchers to quantify the health benefits of flavanols.

Callebaut, which supplies chocolate and cocoa to leading confectioners, says it will provide French nutrition supplement company **Naturex** with cocoa beans to make an extract of flavanols. The extract will start reaching retailers sometime next year, and while Callebaut and Naturex haven't yet released pricing information, Mars's CocoaVia costs \$45 for 90 pills-a 30-day supply. "The science is already done, so getting it to the market should go fast, provided customers are willing to go fast," says Olivier Rigaud, chief executive officer of Naturex. "There's no need for further scientific testing or clinical studies."

The flavanol extracts will enter a global dietary supplement market that has grown 23 percent, to \$51 billion, in the past five years, according to Euromonitor International. Scientists, though, caution that buyers shouldn't count on such products to really

improve their health, and the U.S.

— 1

calories
— 11

#### **Companies/Industries**

Department of Justice on Nov. 17 said it had charged more than 100 makers and marketers of dietary supplements with selling goods containing ingredients other than those listed on their product labels or with making health or treatment claims unsupported by scientific evidence. "Supplements appeal to humans' sense of control over their own health and hard-wired magical thinking that they might do some good," says Marion Nestle, a nutrition professor at New York University. "This has nothing to do with science. If anything, the science shows that supplements have powerful placebo effects."

In April, Callebaut became the first chocolate company to win European Commission approval for claims of health benefits from flavanol extracts. European Union food safety officials say 200 milligrams of cocoa flavanols daily enhance circulation by supporting the elasticity of blood vessels. Problem is, getting 200mg of flavanols would require eating about two dark chocolate bars, with roughly 350 calories and 20 grams of fat, or more than four bars of milk chocolate-about 900 calories and 50g of fat, according to Mars, the maker of M&Ms candies. Or, Mars says, consumers can get 375mg of flavanols a day from three CocoaVia capsules, with a total of 10 calories and no fat, for about \$1.50.

Mars hasn't received any European regulatory approval for CocoaVia capsules, which can be taken orally, and powders, which come in either cranraspberry or dark chocolate flavor to be mixed into drinks, yogurt, or other foods. The company's website claims that, taken daily, the cocoa flavanols in the supplements promote a healthy heart by improving blood flow. But there's an asterisk that says the statements haven't been evaluated by the U.S. Food and Drug Administration and that CocoaVia isn't intended to

Jog 4.5 hours to burn these off, or just take the pills instead

CocoaVia dose
10 calories, 0g of fat

treat or prevent disease. Nonetheless, Mars says sales of the products have tripled over the past year.

Some other confectioners say they have little interest in taking the enjoyment out of chocolate. Lindt & Sprüngli, the maker of Lindor chocolate balls, says it isn't considering cocoa supplements at this time, because it wants to keep focusing on indulgence. Nestlé says it is researching flavanols' health benefits but has no plans to add concentrated forms of them to its products.

Lauren Bandy, a nutrition analyst at Euromonitor, says the supplements have a better chance of gaining traction with older buyers, as younger people aren't as concerned about heart ailments. Still, flavanol use "is far from some kind of magic bullet solution to heart disease that some imply," Bandy says. "If you take the chocolate out of cocoa, it's not very attractive." —Corinne Gretler

**The bottom line** Confectioners are entering the \$51 billion dietary supplement market with flavanols, antioxidants extracted from cocoa beans.

#### Retailing

#### Britain May Just Sleep in on Black Friday

- ► Some big merchants are dropping the U.S.-born shopping holiday
- ► Financially, "it's so destructive because of its timing"

Last year, British retail chains embraced Black Friday as a way to get a jump-start on the holiday shopping season. What followed was, as the Brits would say, a shambles: Bargain hunters fought over cut-price televisions and handbags, damaging retailers' profitability, not to mention the long-held image of British civility and restraint.

Now, retailers are following a different tack. Some are simply abandoning the shopfest. Others will still do Black Friday, despite the frenzy, because shoppers will be buying. In October, the number of Google searches in the U.K. for Black Friday as a share of all searches was more than three times higher than a year earlier. But the



#### **Companies/Industries**

◀ day will be a bit more subdued. More refined. More, well, British.

Walmart's Asda chain was among the first British merchants to adopt Black Friday in 2013, and it's leading the retreat. Its decision to drum up publicity at one London store last year backfired spectacularly when camera crews filmed hordes of shoppers barging through the doors and fighting over an inadequate number of cheap smartphones and video games. To prevent a repeat of the unseemly drama, Asda canceled Black Friday this year and will spread its discounting from November into January.

"Black Friday is completely illogical in the U.K. It's pretty pointless." —Richard Perks, Mintel "Black Friday in its current guise has gone," says Asda Chief Executive Officer Andy Clarke. "It will be interesting to see how many retailers continue it next year."

By embracing the Black Friday holiday, retailers such as Asda and the John Lewis department store chain threw the U.K.'s holiday shopping calendar into disarray. Traditionally, heavy discounting took place in Britain only after Christmas-coinciding with the country's Dec. 26 Boxing Day holiday-allowing merchants to enjoy weeks of full-priced sales in the runup. But Black Friday dangled deep discounts a month before Christmas, making it difficult to raise prices back to normal levels in December. "It's so destructive because of its timing," says Richard Hyman, an independent retail analyst. "It's one of the most damaging things that's been introduced into U.K. retailing for years."

Argos, the chain that introduced catalog shopping to the U.K. in 1973, is also backing away from the Black Friday scrum. To entice customers to shop on other days—and spare its online systems from being overwhelmed by a surge of orders as they were on Black Friday in 2014—Argos has been offering discounts every Friday this November, as well as free same-day delivery on purchases of £50 (\$76) or more.

Last year, the online stampede of Black Friday bargain hunters left some retailers' websites, including those of **Tesco** and Argos, struggling to cope. So caution has become the watchword for merchants this holiday: Electronics retailer **Dixons** 

**Carphone**, for one, began stress-testing its website the day after Black Friday last year.

Retailers know that taking orders they can't deliver hurts their reputations, especially when **Amazon.com**—which now offers a one-hour delivery service to some Prime customers in the U.K.—is raising expectations ever higher. With more than 7,000 deals planned for this Black Friday, the e-tailing giant said the event may well be its biggest U.K. shopping day ever. Shoppers seem keen, too; researcher ICM Unlimited found 75 percent of British Black Friday bargain hunters plan to buy from Amazon.

Black Friday is less of a headache for many online-only merchants, because their distribution systems are often better suited to cope with spikes in demand. The financial damage from discounting is also mitigated by their lower relative tax burden: Property taxes are more than twice as onerous as U.K. corporate taxes for the nation's largest physical store-based retailers.

Traditionalists argue that the Brits shouldn't bother with the American import in the first place. After all, they don't even celebrate Thanksgiving. "Black Friday is completely illogical in the U.K.," says Richard Perks, an analyst with market researcher Mintel. "It's pretty pointless." —Sam Chambers

The bottom line Some of Britain's brick-and-mortar retailers are dropping Black Friday. But Google searches there about the shopfest are up threefold.

#### Entertainment

#### A Tiny Speed Bump for Streaming's Advance

- ► Adele's new album won't play on all-you-can-listen services
- Vying to "get the most financially out of their new material"

Ever since Napster turned the economics of the music business on its head, most artists and record labels have had little choice but to embrace the new ways consumers get access to recorded content. One reason: Last Number of views Adele's single Hello has on YouTube

year, revenue generated by streaming music for the first time surpassed that of songs sold on physical CDs, \$1.87 billion vs. \$1.85 billion, according to the Recording Industry Association of America. (Digital downloads from sites such as iTunes brought in \$2.58 billion in 2014, but their sales are also declining.) Many figure that from now on it will be downhill for discs and downloads—which are much more profitable for performers than streaming material—and artists will just have to hold on for the slide.

But singer Adele's decision on Nov. 20 not to let her new album, 25, be carried by streaming services **Apple Music** and **Spotify** shows that not every artist will surrender without a fight. The British singer's last album, 2011's 21, has sold more than 11 million copies in the U.S., reaching that mark faster than any artist in more than a decade. And it was the rare piece of music that fared well with streaming fans, typically in their teens to mid-30s, and even better with older listeners—the group most likely to buy albums at record stores or on iTunes. A music purchase delivers as much as 150 times more revenue to the artist and the label than the royalty on a single stream on Spotify does.

First-week sales projections for 25 range as high as 2.9 million units, including downloads, which would be the biggest opening since Nielsen began tracking album sales in 1991. So Adele and her distributor, Sony Music Entertainment, likely can afford to restrict the album's streaming until sales have slowed. "Increasingly, many artists are releasing music in cadences, so that they can get the most financially out of their new material," says Vickie Nauman, a consultant who's worked with Sony Music and Beggars Group, which includes Adele's label, XL Recordings. "I imagine Adele will continue to have hard-core fans who will buy the CD, and she stands to make much more from that."

Adele has tangled with Spotify before. She withheld 21 from the service because it refused to limit the songs to paying subscribers. Taylor Swift did the same last year with 1989, though she did allow the album to stream on Apple Music after that service's debut. "We love and respect Adele, as do her 24 million fans on Spotify," Spotify said in a statement. "We hope that she will give those fans the opportunity to enjoy 25 on Spotify alongside 19 and 21 very soon."

Older music lovers tend to buy other music while shopping for a particular release. So many of them bought albums online and in stores in 2011 thanks to 21, says MusicWatch analyst Russ Crupnick, that Adele's success temporarily halted the longterm decline in U.S. album sales overall. After U.S. music industry sales fell 11 percent in 2010, they rose 0.2 percent in 2011 before resum-

Average price of a

16-pound turkey,

a record high, this

say the worst-ever

U.S. bird flu outbreak

decimated 10 percent

Minnesota and may push

prices still higher in 2016.

of flocks in Iowa and

Thanksgiving. Experts

ing their slide. "We called it 'the Adele factor," Crupnick says. "Adele single-handedly helped change the trajectory."

Still, it's a risk to shut out streaming.

The services have emerged as a major source of revenue since 2011, when they accounted for about 10 percent of music sales. In the first half of 2015, streaming increased to 32 percent in the U.S., offsetting falling purchases of CDs and digital singles.

That's why some analysts question the limits put on 25. The album's hit single Hello, which is available on Spotify, is already near the top of the charts; its video was viewed more than 450 million times on YouTube in its first month. "It is so primed for a successful debut, you don't want to play games," says Ted Cohen, managing partner of TAG Strategic, a digital entertainment consultant. If a music company says it won't allow the album to be streamed to force people to buy it, Cohen says, "it'll piss a lot of fans off." —Lucas Shaw

The bottom line Streaming music revenue surpassed that from CD sales in 2014. Adele's new album could slow that march.

Edited by James E. Ellis Bloomberg.com

**Briefs** 

By Kyle Stock

## **Detroit Muscle**

■ ☐ The United Automobile Workers approved contracts with Ford Motor and General Motors. The four-year deal with Ford was the richest of the new UAW pacts, calling for across-the-board raises, bonuses of up to \$10,000 per worker, and \$9 billion in factory improvements. GM's agreement, which also provides raises, lets the company offer early retirement to 4,000 union mem-



Frankenfish is a go Federal regulators approved Intrexon's genetically modified salmon-which grow twice as fast as wild fish-for commercial sale and human consumption.

bers and replace them with younger, cheaper workers. GameStop took a beating after it reported a 1.1 percent drop

> in same-store sales in the quarter ended in October. While the video game and electronics retailer's merchandise and collectibles business is booming, sales of digital games, including the much-

> anticipated Halo 5 and Star Wars Battle-

front, fell. • • Blue Origin, a private company backed by Amazon.com, made history by launching a rocket to the edge of space and landing it upright and intact. The recycling coup could change the economics of space travel. Elon Musk's SpaceX has repeatedly failed at similar attempts. • • The strong dollar and cooling demand for baubles took some shine off *Tiffany*. The jeweler said its profit this year will drop 5 percent to 10 percent from a year earlier, roughly twice

the decline it predicted in August. Tiffany gets slightly more than half its revenue from outside the U.S. • 🕯 • Nestlé determined that its seafood supply chain relies on the use of duped and abused migrant workers in Thailand, resolving a yearlong investigation into the origins of its Purina brand cat food. The company said it will soon release a yearlong plan to improve conditions and train boat captains.

"The Internet is a transformational tool for retailing, but it doesn't replace everything else. The combination of the Internet and bricks and mortar is by far the strongest Hudson's Bay, the

owns Saks

offering you can have.' -Jerry Storch, CEO, Canadian retailer that

CEO Wisdom



Seriously. They scanned your yearbook.

30

- ► A startup mines yearbooks and church lists to find voters
- "We're trying to use data to leverage existing relationships"

Since mid-November, New Day for America, the super PAC supporting Ohio Governor John Kasich's bid for

the Republican presidential nomination, has been airing television ads in New Hampshire portraying GOP front-runners Donald Trump and Ben Carson as inex-

perienced and unprepared for the job they seek. New Day has said it plans to spend \$2.5 million to broadcast the commercials before the primaries begin in February—an attack the group's chief strategist, Matt David, described as "the tip of the spear against Trump."

Less noticeably, New Day volunteers have been gathering in New Hampshire and in Columbus, Ohio, where the group is headquartered, to call potential voters. Their goal is to reach Carson supporters, whose profiles suggest they might defect to Kasich. Within that group, the volunteers prioritize individuals identified as social anchorspeople likely to be influential with other potential Kasich supporters.

That information comes from Applecart, a New York-based data company. Rather than track connections on Facebook and other social networking sites, Applecart uses analog sources-yearbooks, church lists, amateur sports team rostersto map relationships among potential voters across the country. The company's executives say the idea is to help a campaign turn out voters through peer pressure. "What we're talking about is not finding that Rihanna is probably influential to my 19-year-old female cousin," says Sacha Samotin, 24, one of Applecart's founders. Instead, it's to find the one person his cousin will listen to "because they went to high school together."

Samotin and two classmates started the company as undergraduates at the University of Pennsylvania, where they worked as research assistants for John Dilulio, a professor of political science who oversaw the establishment of the White House's Office of Faith-Based and Community Initiatives under President George W. Bush. In 2012, President Obama's reelection campaign asked volunteers to share their Facebook friend lists, theorizing that potential

ING MR. MILLER'S LASS TO SMOKE IN THE STAIRWELL!

Landlords love refugees—the rent's always on time 32

A Bill: Smokey Bear can take care of himself 33

voters would be more receptive to pitches from people they knew. Under DiIulio's guidance, Samotin and his friends, Matt Kalmans and Anthony Liveris, tried to figure out how to apply the same idea without relying on social networking sites—both to help campaigns that don't have a large pool of volunteers willing to grant access and to reach older voters who aren't online at all. These people are likelier to vote, and to vote Republican.

Applecart pulls data scanned from yearbooks, local club registers, or newspaper obituaries held at local libraries. The company also scours public websites, including those of law firms, which often post employee directories. Then Applecart builds a social graph, treating each likely voter as a node in a network. Nuclear family, extended family, colleagues, fellow club members, and former classmates get different weights, based partly on geographic proximity. "A co-worker who lives on the same block as a Manchester voter would be in a different category than a co-worker who lives in Nashua," 20 miles south, Samotin says.

Last year, Applecart used its social graphs to mimic a classic 2006 experiment in which political scientists at Yale sent Michigan residents records of their voting turnout histories along with those of their neighbors. The researchers also promised to send an updated notice after that year's primary. Turnout among those who got the mailer increased 8 percentage points, the largest effect ever produced by a single piece of direct mail. When Applecart replicated the experiment, it substituted the voting records of neighbors with those of people who were likely to be personally familiar to the recipient. Turnout last year rose 14.6 percentage points among those who got the mailer. (Samotin won't reveal the state but says it was in the South.)

The goal is to create buzz: "We just set 'em up, and the campaign knocks 'em down"

Applecart was sought out by the pro-Kasich super PAC, which is focusing its energy on helping its candidate in New Hampshire, a state where the difference between finishing in eighth place and third could be as little as 20,000 votes. "We're trying to use data to leverage existing relationships to find Kasich

14.6

Increase in turnout in 2014 among people whose voting habits were shared with friends supporters, and then turn them out," says New Day strategist David.

New Day is also using Applecart's data to find ways to reach party and elected officials for endorsements. Usually, campaigns rely on

donors or fellow politicians to appeal to political elites. New Day wants to enlist their friends and acquaintances instead. "We go to the people around them and try to push them," says New Day Political Director Dave Luketic. The super PAC is prohibited from directly securing endorsements for the campaign, but Luketic says the goal is to create positive buzz for Kasich. "We just set 'em up, and the campaign knocks 'em down," he says.

Applecart's social graph is even shaping the way fundraising is done for the super PAC, which brought in more than \$11 million in the first half of the year. The company's analysts took a list of 130,000 donors who'd made at least three contributions of \$1,000 each to Republican candidates since 2006. They winnowed that using several factors, including whether people had given to centrist Republicans like Kasichcandidates such as Jon Huntsman, Rudy Giuliani, or John McCain. Applecart's program spat out a list of about 30,000 donors and then separated them into 5,000 distinct social circles based on the connections found in the data.

New Day fundraisers are dialing through these lists, hunting for donors who've given generously to campaigns in the past and are connected to other givers, but who've never been formally enlisted to fundraise for a campaign people Applecart calls latent bundlers. "The social graph is operating in the background, and the social graph is directing people," Samotin says. "It's who we're calling and who's doing the calling that has the biggest difference in effectiveness. We can make sure those interactions are as streamlined as possible."

As more calls to donors, volunteers, and voters are made, Applecart's statistical models will be refined to reflect which connections are most effective at shaping specific types of political behavior. People might be willing to bring their checkbook to a friend's fundraiser, but it's still an open question whether that same person can persuade friends to go to the polls on Election Day. "Your best friend or family members," Samotin reflects, "aren't going to disown you because you don't vote." —Sasha Issenberg

**The bottom line** A super PAC backing Republican John Kasich is turning to offline social networks to identify and turn out supporters in New Hampshire.

#### **Diplomacy**

## Warren Buffett's Sweet Christmas Bonus

- ► U.S. embassies love to give away Berkshire-owned See's Candies
- "Their gift options are very appropriate"

Every year, U.S. embassies around the world have a delicate chore: Finding presents to give foreign officials and other Department of State contacts in their region. It's best if the presents are uniquely American and not too expensive. Above all else, they have to be culturally appropriate. No diplomat wants to create an international incident by giving a devout Muslim who abstains from alcohol a bottle of Kentucky bourbon.

Thankfully, there's one gift almost everyone loves: chocolate. The go-to confectioner for the diplomatic corps is California-based **See's Candies**. The company, which was founded in 1921 and is now owned by Warren



■ Buffett's **Berkshire Hathaway**, has rung up at least \$330,000 in sales to the State Department since 2010, according to Bloomberg data. (The total may be higher; the government isn't required to report purchases of less than \$3,500.)

Orders have streamed in from U.S. diplomats in Kazakhstan and Kosovo, Colombia and Costa Rica, among other countries. The lion's share comes from Tokyo. Japan is home to one of the largest State Department missions and also has one of the world's most elaborate gift-giving cultures, especially around New Year's Day. In 2014 the embassy spent almost \$45,000, enough to buy more than 2,400 1-pound boxes of the company's filled chocolates, which list for \$18.50. "See's is an American company, and their gift options are very appropriate," says Gabrielle Price, a spokeswoman for the State Department's Bureau of East Asian and Pacific Affairs.

Other popular holiday giveaways include White House Christmas tree ornaments and coffee-table books highlighting American scenes. Giving such gifts, Price says, helps convey "the richness of American values, culture, and cuisine."

See's dominance at State hasn't carried over to other government agencies. In the last decade, the Department of Defense hasn't reported buying anything from the company, but it did spend at least

\$270,000 in fiscal year 2015 on goodies from **Hershey**. See's is thrilled to have hit the diplomatic sweet spot, says spokeswoman Alison Pang: "Sending American-made, delicious treats is always a good idea!" —*Noah Buhayar* 

The bottom line Since 2010, American diplomats have spent more than \$330,000 buying holiday gifts from See's Candies.

#### Refugees

#### A Welcome Mat for Displaced Syrians

- ► Landlords say asylum seekers make the best tenants
- "There was less turnover.... I'm not doing this for charity"

For the past five years, Daryl Anderson has been buying foreclosed homes and apartments in Cleveland on the west side of the Cuyahoga River, usually for less than \$8,000 apiece. He fixes them up and then rents them out. These days, about 80 percent of his 40 rental units house refugees newly arrived from conflict zones around the world: the Democratic Republic of the Congo, Iraq, Somalia. "I've never had to evict a refugee family," says Anderson, 36, who got into real estate after serving in the U.S. Marine Corps in Iraq and Afghanistan. "When they come here

and get a quality house, they take care of the stuff that they're provided."

The steady stream of refugees and asylum seekers has helped Anderson build his business. In fiscal year 2015 the U.S. resettled 69,933 people, including 18,386 from Myanmar, the leading country of origin. Most went to California and Texas, but Ohio received 2,989 last year, according to the Migration Policy Institute, a Washington nonprofit. Refugee numbers are expected to increase in 2016 as the Obama administration admits more displaced Syrians.

Anderson says he rehabs about two new apartments a month. Most of his tenants are referred by Us Together, a local affiliate of HIAS, formerly known as the Hebrew Immigrant Aid Society, one of nine agencies contracted by the U.S. government to provide services to refugees. When Anderson finishes a renovation, Us Together often has someone ready to move in. "If I post on Craigslist, I'll get 10 responses, and I'll show the apartment to six of them," he says. "That's harder."

Once a refugee is referred to the U.S. by the Office of the United Nations High Commissioner for Refugees, it typically takes 18 to 24 months to process the application. Things move quickly after applications are approved. Refugees are assigned to a resettlement agency, which sets them up with housing and basic household items like can openers, alarm clocks, and pens and paper, says Danielle

Drake, a community relations manager for Us Together.

The resettlement agencies cultivate relationships with property owners willing to rent to tenants who have no credit history and, often, no immediate source of income. Refugees receive a one-time government stipend of as much as \$1,125, which is supposed to cover all initial expenses, including housing. Aid workers tempt landlords with the prospect of conscientious tenants who tend to stay put for a long time. "Refugees have often been on the move for so long that it's a tremendous relief to be able to stop traveling," says Sarah Ivory, regional director for U.S. immigration and refugee programs at CWS (Church World Service), another official resettlement agency. Keith Raynor, who's rented out apartments in Utica, N.Y., for three decades, says that's a major draw. "There was less turnover, which helps with the bottom line," he says. "I'm not doing this for charity."

The resettlement agencies and their affiliates also provide job-placement support and private funds to help refugees through rough spells. When Ivory started out as a case manager a decade ago, those inducements meant "landlords would fall over backwards" to rent to her clients. The strength of the rental market has made the task more difficult in recent years. "In some places, it's getting harder to find people with vacancies who are willing to take the risk," she says.

Abby Christophel, a landlord who says refugees occupy about 10 percent of her family's 180 rental apartments in Harrisonburg, Va., quotes Leviticus to explain why she prefers renting to refugees: "The stranger that dwelleth with you shall be unto you as one born among you, and thou shalt love him as thyself." But the 40-year-old landlord has other reasons to prefer people fleeing war and strife to local residents. "This is an area with a lot of students," says Christophel, whose properties are near James Madison University. "We would rather rent to refugees, who aren't likely to throw a midnight kegger." —Patrick Clark

The bottom line Refugees have provided landlords in smaller U.S. cities with a pool of dependable tenants.

**Edited by Allison Hoffman** Bloomberg.com

## $\mathsf{A}\mathsf{Bill}$

By Lance J. Rogers

# Fixing Bugs in the Law

H.R. 4023 Clean Up the Code Act of 2015

- Since 1956, it's been illegal to sell water hyacinths, water chestnuts, and alligator grass—all invasive plants—across state lines. Violations can be punished by fines and prison terms of up to six months. On Nov. 18, the House Judiciary Committee unanimously approved the Clean Up the Code Act, which would decriminalize the sale of all three species.
- The bill would also repeal parts of the U.S. criminal code making the unauthorized use of the 4-H club emblem. Smokey Bear, or the Swiss cross punishable by fines or jail time—all examples of what Virginia Republican Representative Bob Goodlatte, chairman of the Judiciary Committee. says are "outdated, ill-drafted, or frankly ridiculous" crimes.
- It's part of a bipartisan criminal justice reform package under consideration by the House. Related Senate legislation introduced in October would reduce mandatory sentences for nonviolent drug crimes. President Obama has indicated he'll sign the bills into law if Congress can agree on a final version. A vote may come before the end of the year. Vital

statistics Sponsor Rep. Steve Chabot (R-Ohio) Co-sponsors Rep. Bob Goodlatte (R-Va.) Rep. John Conyers (D-Mich.) Rep. Sheila Jackson Lee (D-Texas) Rep. Randy Forbes (R-Va.) Rep. Mike Bishop (R-Mich.)

Section 1

Short Title



Section 2

Repeals

pp. 1-2

(2) Section 511A relating to unauthorized application of theft prevention decal or device

In 1910, Congress

voted against

importing African

hippos to control

water hyacinths

(1) Section 46

transportation of

water hyacinths

relating to

(3) Section 707 relating to 4-H club emblem fraudulently

(4) Section 708 relating to Swiss Confederation coat of arms

(5) Section 711 relating to "Smokey Bear" character or name

(6) Section 711a relating to "Woodsy Owl" character, name, or slogan

(7) Section 715 relating to "The Golden Eagle Insignia"

(8) Chapter 89-Professions and Occupations

pp. 2-3

Section 3 Clerical Amendments

Makes it illegal for

a dentist to send

dentures to patients

in other states

(9) Section 1921

relating to receiving federal employees' compensation after

marriage

In cases of injury or death on the job



# **Technology**

SoftBank plans a string of \$300 million bets 36

How to snag that peanut butter porter 37

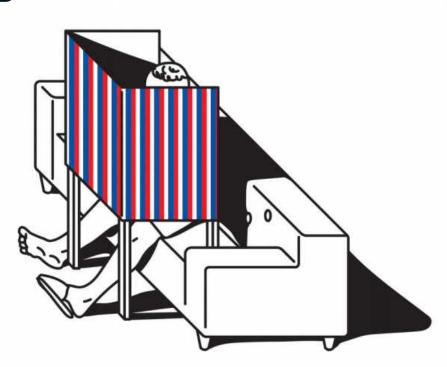
Tight purse strings work for Apple's R&D 38

Innovation: A better food prep table 39

November 30 - December 6, 2015

# Voting From the Privacy of Your Couch





#### ► Governments in 42 countries use Scytl's election software

#### ► Major fraud "would stand out like dog's balls"

Electoral fraud has been pervasive in Nigeria since it returned to civilian rule in 1999. This year, to prevent tampering with ballots on the way to the capital, poll workers nationwide used technology from a Spanish software maker called **Scytl** to scan the tallies and transmit them electronically. Despite predictions of violence, voters elected an opposition candidate—removing an incumbent from office for the first time—in a process Human Rights Watch described as "mostly peaceful."

Governments in 42 countries are using software from Scytl (rhymes with "title") to bring elements of their elections online, from registering voters to consolidating results. "If you look at the way elections are being run in

most countries, it's still the same way they used to be run 50 years ago," says Chief Executive Officer Pere Vallès. Using Scytl's technology, he says, a country can more easily stop fraud and announce winners "in a few hours instead of a few days."

The company, based in Barcelona, sells software to put each step of the election process online, including poll worker training and campaign spending. To vote online, registered voters generally need to visit a government website and enter an electronic ID and password. When a voter submits and signs a digital ballot, software encrypts the data on the person's device and provides a digital receipt.

Developing countries typically use

Scytl's technology for fraud prevention, but some officials, including those in about 1,400 U.S. counties, use it to cut costs and improve participation. "If you follow the instructions, it's actually pretty simple," says Carol Thompson, manager of Alaska's Absentee and Petition Office, which hired Scytl in 2012 to create a system for Alaskans to receive and return ballots online. The state warns online voters they're waiving their right to a secret ballot, meaning they know their votes could be exposed by a hack. But, Thompson says, "we haven't had any issues, and we expect use to keep increasing."

So does the company. Created in 2001 as a spinoff from a cryptography research group at the Autonomous

#### **Technology**

University of Barcelona, 625-employee Scytl is profitable and has boosted its 2013 revenue of \$50 million by 50 percent in each year since, Vallès says. The company has raised about \$120 million in venture funding, including \$40 million last year from Vulcan Capital, Microsoft co-founder Paul Allen's multibilliondollar investment firm. Vulcan interim Chief Investment Officer Abhishek Agrawal says governments spend \$20 billion a year on elections, making software a growth area. Vallès says he's working toward an initial public offering on Nasdag in 2017.

"At the moment, there's only a couple of companies in the world that can claim any real expertise in Internet voting," says Ian Brightwell, chief information officer for the electoral commission in the southeastern Australian state of New South Wales, Brightwell hired Scytl to improve the state's electronic voting system for elections held in March. Lori Steele Contorer, CEO of Everyone Counts, says her software, which handles government elections as well as voting for the Oscars and Emmys, is at least as secure as Scytl's. She says she expects the U.S. Election Assistance Commission to give Everyone Counts the first federal certification for online voting next year. The company says it's received \$40 million in funding from investors since 2006.

Many election watchdogs say software isn't yet secure enough to be trusted, and they're concerned that Scytl and its competitors haven't developed a way for third parties to independently verify results. "Murphy's Law says something is going to go wrong in pretty much every election," says Pamela Smith, the president of election watchdog Verified Voting in Carlsbad, Calif. "Transmitting actual votes is too high-risk for using online technology." No current online system has "the level of security and transparency needed for mainstream elections," according to a July report prepared for the U.S. Vote Foundation, a nonprofit that advocates for expanded absentee voting.

Vallès says that concerns about security are valid but that Scytl has never been hacked. "These would be things that, for a company like us, would be a lethal type of mistake," he says. Australia's Brightwell acknowledges that computer scientists demonstrated

a "small chink in the security" of his system earlier this year, but he says there's no evidence it was exploited. He plans to expand online voting. "If you had major electoral fraud in the electronic channel," he says, "it would stand out like dog's balls."

To soothe worried governments, Vallès often first pitches more minor functions, like voter education and personnel training. He says an online voting system due for the Swiss government next year will make it easier for authorities to audit and verify vote tallies, addressing "the main concerns of the academic community." Vallès's next big test will be handling reporting, as Scytl did in Nigeria, for every polling place in Spain on Dec. 20. The Spanish Ministry of Interior will publish results on a public website in near-real time. "The objective isn't fraud prevention," Vallès says. "It's speed." —Nick Leiber

**The bottom line** Scytl has raised about \$120 million to bring more election processes online. The company is trying to expand fully online voting.

**Venture Capital** 

# SoftBank's \$3 Billion Startup Incubator

- ► The telecom giant is building a massive, risky investment arm
- "We're going to concentrate on companies in a finite range"

Last year, Nikesh Arora was managing some 20,000 people in **Google**'s ad operation. This year he has about 10 reporting to him, but his aims aren't any less ambitious. He's now president of Japan's **SoftBank**, and he's trying to find the next Google.

As No. 2 to SoftBank Chief Executive Officer Masayoshi Son, Arora is building an investment arm that would spread as much as \$3 billion among 5 to 10 startups a year. Facing challenges at major holdings including **Sprint** and **Alibaba**, Son is trying to create a venture fund within his

\$65 billion conglomerate to compete with the elite of Sand Hill Road. Arora's advantages are speed and scale: He can commit to huge

sums after a chat with Son.
"There are only so many people who
can write checks between \$100 million
to \$1 billion," says Arora, 47.

'There are only so many people who can write checks

\$100 million to

between

\$1 billion."
——Nikesh Arora

SoftBank is making a considerable gamble: It'll be placing large bets on relatively few startups, concentrating risk in ways most VC firms avoid. Arora is also moving SoftBank into late-stage ventures amid rising concern that valuations are overblown and a crash is coming. "Their strategy is bold," says JF Gauthier, head of business development at researcher Compass. "On the other hand, it's risky."

Arora says his team, hired from companies including Google and LinkedIn, will help startups develop products, close deals, and run operations. SoftBank has made smaller startup bets for years, which Son said was almost a hobby. His biggest win was a \$20 million investment in Alibaba in 2000, a stake now valued at more than \$60 billion. He's also done well with investments in Japanese game maker **GungHo Online Entertainment** and Chinese social network **Renren**.

Arora says he's looking for more mature startups that have proven products and wants to jump-start the kind of rapid growth he helped manage at Google. There are about 1,000 startups worth \$500 million or more, he estimates, and his goal is to get to know all of them. "That's our universe," he says. "We're going to concentrate on companies in a finite range, and we're going to understand them and pay attention to them for a very long time."

SoftBank doesn't have the constraints typical of venture and private equity firms. Arora and Son aren't

> raising money from limited partners, so they don't have a 10-year fund limit that would compel them to return money to investors. They also

don't answer to an investment committee. "What SoftBank does is unique," says Nizar Tarhuni, an analyst at researcher PitchBook Data. "They've taken bigger stakes, and

Arora ne 10 co t

Tavour's beer picks tend to be much rarer—and wackier than the drafts at your local bar.

they have a bigger median deal size. You don't see it very often, and you don't see it at that scale."

So far, Arora has mostly directed SoftBank's money toward his native India. He put money into **Snapdeal**, one of the country's leading e-commerce marketplaces, and ridehailing service **Olacabs**. More recent investments include hotel-booking app **Oyo Rooms**, whose founder, Ritesh Agarwal, says Arora personally helped him close a hotel Wi-Fi deal with telecom Bharti Airtel. In October, SoftBank led a \$1 billion round of financing for **Social Finance**, an online lender in San Francisco.

Arora says he has deep contacts with Valley startups, though they weren't his focus during his decade at Google, where he helped develop a European ad business. From there, Arora became Google's global head of sales and chief business officer, helping expand into video and mobile ads, before Son wooed him with a jaw-dropping pay package of \$138 million. "The blueprint of how Google makes money was drawn up in Europe under Nikesh," says Ben Legg, a longtime colleague who's now CEO of ad-tech company AdKnowledge.

Google colleagues say Arora's tailored Armani suits made him stand out among the rumpled engineers. He was able to focus on revenue at a company built more on a hierarchy of coding obsessions and pie-in-the-sky projects. "Nikesh was very instrumental in that conversation," says Patrick Pichette, a former Google chief financial officer who worked with him for seven years.

Not all of Arora's bets have paid off. SoftBank's investment in real estate website **Housing.com** has been complicated by the firing of tempestuous CEO Rahul Yadav. More broadly, it's not clear this is the best moment to sink \$3 billion into startups. Mutual funds are marking down investments in startups such as Snapchat and Dropbox, while Square and Match Group priced their initial public offerings at the low end of their expected ranges. "It's much easier to run a company that's losing money," says Bill Gurley, general partner at venture firm Benchmark Capital, adding that he's especially leery of ad-tech and e-commerce investments.

Son says Arora "has shown deep insight and balance." Arora says he'll be choosy and patient. In August

he said he'd buy 60 billion yen (\$483 million) of SoftBank shares for himself–25 percent with his own money, the rest borrowed—after a latenight talk with Son, who challenged him to multiply SoftBank's value. "I'm here for at least the next 10 years," Arora says. "If we do double, triple the value of SoftBank, I'll pay back my loan and give money to charity." —Pavel Alpeyev and Takashi Amano

**The bottom line** SoftBank President Arora plans to invest hundreds of millions of dollars a year in no more than 10 startups.

#### **E-Commerce**

#### A Delivery Service for Beer Geeks

- ► Tavour offers monthly custom packages of rare craft brews
- ► "The grocery stores and existing setup just can't cater to that"

Old-school beer-of-the-month clubs bring a selection of craft brews to your door, but they typically don't let you handpick your orders and may not offer enough variety to satisfy adventurous aficionados. With the \$20 billion U.S. craft beer market growing at 22 percent a year, compared with flat sales for the beer business overall, Seattle startup **Tavour** is targeting the kind of drinker who lines up every Black Friday at **Goose Island**'s brewery for a taste of its Bourbon County stout.

Once customers sign up for Tavour's e-mail service, they get a daily (sometimes twice-daily) offer for a particular highly rated craft beer in limited quantities of 3 to 12 cans or bottles. Options include a wide range of domestic brews—Saison Premiere from **De Garde Brewing** in Oregon, the Bomb! from **Prairie Artisan Ales** in Oklahoma—and a decent number of imports, such as Belgium's **Brouwerij Van Steenberge** Gulden Draak Brewmasters Edition. More unusual offerings include peanut butter porters and single-hop sours.

"People have very distinctive tastes, and the Internet is allowing them to explore those tastes," says Tavour Chief Executive Officer Sethu Kalavakur. "The grocery stores and existing setup just can't cater to that."

Customers reply to the daily e-mails if they want the beers on offer, and Tavour stockpiles the orders for a monthly delivery. Recent prices range from \$2.50 to \$20 a beer. Regardless of how many it's sending you, the company charges \$15 shipping to any of the seven states it covers so far: Arizona, California, Colorado, New Mexico, Ohio, Oregon, and Washington.

Kalavakur met co-founders Philip Vaughn and Rafik Robeal about a decade ago while working at Microsoft, and the three started Tavour in 2013. (Robeal has since left.) Sixteenemployee Tavour raised \$700,000 from angel investors to start and is trying to raise an additional \$400,000 to add staff and expand in its markets. Kalavakur says it's profitable, but he wouldn't disclose revenue.

Before formally incorporating Tavour, the co-founders did research for six months. "We tried a lot of beer," Kalavakur says. Mostly, though,

#### Take your pick:

#### To OI

F--- Art the Heathens Are Coming grisette ale

#### Track 7 Brewing Nukin' Futz imperial

porter >

#### **Epic Brewing**

Big, Bad Baptist barrelaged stout

#### Alesmith Brewing

Evil Dead red ale ▶

#### **Justice Brewing** Butterfinger brown ale

Midnight Sun Brewing Modern Romance spicy chocolate dark ale ▶

#### Baranof Island Brewing

Sitka spruce tip ale

# Oakshire Brewing III Tempered Gnome winter ale

#### Grimm Brothers Brewhouse

Fearless Youth dunkel lager

#### Cigar City Brewing and Terrapin Beer

Terrapin Beer Vapricot imperial IPA ▶

#### Woodland Empire

Set 'Em Wild, Set 'Em Free Peaches Berliner weissbier

#### Thirsty Dog Brewing Siberian Night imperial stout



■ they talked to consumers, he says, trying to figure out how to appeal to craft brew newbies as well as people picky enough to frequent beer-trading forums at websites such as Reddit and Beer Advocate.

To brewers, Tavour pitches itself as a new distribution channel that can keep beer from sitting on shelves far from the geeks who'd appreciate it. "The industry isn't set up in a way where a craft brewer who wants to experiment is ever going to get the distribution that's right for them," Kalavakur says. The difficulties of beer distribution can push craft breweries to sell out to bigger companies, says Tim Ramey, an analyst at Pivotal Research Group.

With consumers, Tavour banks heavily on street cred. "As craft beer fans, we want to support small, local operations that remain true to their roots," reads a typical Tavour e-mail pitch, this one for **Epic Brewing**'s Fermentation Without Representation imperial pumpkin porter. The e-mail suggests Epic's pumpkin beer as an alternative to **Elysian Brewing**, bought by Anheuser-Busch InBev earlier this year. "When they took the Anheuser-Busch route, we were left in the lurch," co-founder Vaughn wrote of Elysian.

"For a certain number of hardcore beer geeks, it's definitely seen as us vs. them," says Kendall Jones, a Washington beer blogger. Craft brewers such as Elysian or **Ballast Point**, bought by Corona distributor Constellation Brands on Nov. 16, "have sided with them, so they are no longer us," Jones says. Kalavakur

Quoted

says that after AB InBev announced a deal to acquire 10 Barrel **Brewing** in Oregon last year, a flurry of angry e-mails persuaded him to stop hawking 10 Barrel and other InBev holdings. That means no Bourbon County stout, either: InBev bought Goose Island in 2011.

Not that Tavour was guaranteed any of the stout. Online startups rank low on brewers' lists of deliveries for "the uber-rare beers that everybody gets all jazzed about," says Jones. Kalavakur promises some "hot beers" are on the way but says he's more interested in turning customers on to underappreciated gems than scoring a rare case of Pliny the Younger triple India pale ale. Says Kalavakur: "We want to bring people the next Pliny." —*Dina Bass* 

**The bottom line** Two-year-old Tavour is turning a profit on its craft beer shipments, pitching daily to devotees and collectors.

#### Research

# Apple Gets More Bang For Its R&D Buck

- Other companies contribute a lot of the baseline research
- "Suppliers are racing with each other to get Apple's business"

Silicon Valley is aglow from so-called moonshots. Google's parent company, Alphabet, is building autonomous vehicles, life-extending drugs, and animal-look-alike robots. Facebook is developing Internet-beaming drones and virtual-reality headsets, while Microsoft has unveiled hologram glasses and is chasing breakthroughs in

Responding to the lengthy interview,

Match said in an

SEC filing that

Rad hadn't been authorized to

make statements

on its behalf

"There's a term for someone who gets turned on by intellectual stuff.... What's the word? I want to say 'sodomy'?"

Tinder Chief Executive Officer **Sean Rad** in a Nov. 18 interview with the *Evening Standard*, a day before Tinder's parent company, Match Group, went public

**Innovation for Less** 

Google

Apple Revenue: \$233b 3.5%

Percent spent on

\$66b 10 /0

Qualcomm
\$25.3b 22%

Facebook \$12.5b

REVENUE FOR MOST RECENT FISCAL YEAR; DATA: BLOOMBERG

translation software. **IBM's** AI software, Watson, will take on all comers in chess.

Compared with its resources, **Apple** has remained relatively quiet. It spent just 3.5 percent (\$8.1 billion) of its \$233 billion in revenue in fiscal 2015 on research and development, a lower percentage than every other large U.S. technology company, data compiled by Bloomberg show. By contrast, Facebook spent about 21 percent (\$2.6 billion) on R&D, chipmaker **Qualcomm** 22 percent (\$5.6 billion), and Alphabet 15 percent (\$9.2 billion).

Apple's success belies the conventional wisdom that a leading tech company must reinvest a sizable chunk of its sales in R&D or risk being overtaken. Apple has never subscribed to that philosophy. Steve Jobs said in 1998 that "innovation has nothing to do with how many R&D dollars you have." He liked to point out that when the Mac was introduced, IBM was spending about 100 times more than Apple on research.

Under Chief Executive Officer
Tim Cook, Apple leans heavily on
advances made by suppliers, focusing on crucial technology such as
semiconductors, according to Ram
Mudambi, a business school professor
at Temple University in Philadelphia.
Apple's size motivates suppliers
to pitch the company their biggest
breakthroughs, says Mudambi, who
studies successful companies with low
research budgets.

The prospect of getting a new chip, screen, or camera flash inside a future iPhone helps Apple steer other companies' research. Apple sold more than 230 million iPhones last year and has committed to spending \$29.5 billion in the next 12 months on components such as chips, screens,

COURTESY IKEA (3); ILLUSTRATION BY 731 (1)

camera modules, and graphics processors, up from \$24.5 billion last year. "Suppliers are racing with each other to get Apple's business, and part of the racing they are doing is spending more on R&D," Mudambi says.

Apple knows it can't rely on its suppliers for everything. It's expanded research outlays significantly over the past three years, to \$8.1 billion in fiscal 2015, up from \$6 billion in 2014 and \$4.5 billion in 2013. One of the biggest investments has been in the proprietary semiconductors at the heart of the iPhone and iPad. The latest A9 chip, built for the iPhone 6S and iPad Pro, is faster than any chip on the market made by leading semiconductor companies. Apple's workforce has also increased sharply over the past few years; as of Nov. 20, the company had 135 chip-related job openings for engineers and designers. The growing research budget hints at future products, such as the company's rumored car.

Research isn't the whole story, either. Apple laid out \$11.2 billion in 2015 on capital equipment, mostly things like tooling and manufacturing gear. Such expenditures, which include the construction of a space-shiplike corporate headquarters, will hit \$15 billion in 2016. While other companies make a bigger show of their projects, "Apple's work is in secret. It is substantial and calibrated by market opportunity," says Horace Dediu, founder of researcher Asymco.

Apple's relative thriftiness extends to its vaunted advertising and marketing operations. The company spent \$3.5 billion on advertising and marketing over the past four quarters, while Google spent about \$8.8 billion in the past three. R&D spending isn't worthwhile if it never leaves the lab, says Tim Swift, a business professor at St. Joseph's University in Philadelphia. "Apple's products are going through some of the most effective and sophisticated marketing we've ever seen," he says. "That's the other half of what makes Apple the most productive R&D spender." —Adam Satariano

**The bottom line** Apple has doubled its R&D spending since 2013. It still spends a smaller portion of revenue than any other big U.S. tech company.



# Innovation

# **Smart Table**

#### Form and function

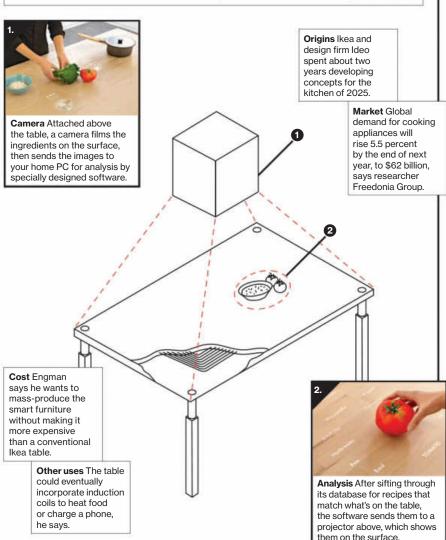
Ikea's Table for Living can detect the foods and ingredients on its surface and suggest recipes and preparation techniques.

Innovator Marcus Engman

**Age** 49

Design manager at Ikea





#### **Next Steps**

Nadia Elrokhsy, a professor of sustainable interior design at Parsons School of Design, says the table could help people make better use of food that might otherwise go to waste. For now, Engman says his team is working to bring down the costs of incorporating more technology. "When you work with things like this, the hardest thing to achieve is low price," he says. "We are Ikea. We don't want to put expensive solutions onto the market." —Olga Kharif

# INVESTING FOR what's next



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All investments involve risks, including possible loss of principal.

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# Markets/ Finance

November 30 - December 6, 2015

Bankers give a lesson in lobbying 42

Homes built for the needy lead a housing boom 43

A bond master braces for higher rates 44

Bid/Ask: Petco stays private; AstraZeneca sells a drug 45

At a dinner in March for Steven Cohen and the top 30 executives of his **Point72 Asset Management**, the hypernumerate attendees were given a simple math problem to solve. Then six were asked to stand up and complete a similar one as their boss and colleagues looked on. "You could see people getting nervous and sweating," says workplace culture guru Lindsay McGregor. Turns out it took three times longer, on average, to do the math with the audience watching.

The exercise, meant to demonstrate that the fear of being judged can kill performance, was one of several that McGregor and partner Neel Doshi conducted that night at Gabriele's Italian Steakhouse in Greenwich, Conn. The husband and wife were hired by Point<sub>72</sub> President Doug Haynes late last year to help remake the culture of a company at which competition was intense, management was harsh, and employees made boatloads of money for Cohen, their clients, and themselves. The firm's previous incarnation, SAC Capital Advisors, returned 25 percent annually for its clients over two decades, even after taking a 50 percent cut of profits.

The culture overhaul is part of a larger effort by Cohen to rebrand his firm and to create some distance from the legal troubles of the past few years. In 2013, Cohen agreed to stop managing money for outside clients to settle charges of insider trading against the firm. Within months, he had dropped the name SAC-his initials—and adopted the less personal Point72, named for his headquarters' address. He also hired Haynes, a former McKinsey director, to run what has become Cohen's \$11 billion family office and to help sanitize its Wild West reputation.

"The changes are sweeping, and Steve has really been at the center of all of it," Haynes says. "He is a restless, innovative person who is always wondering how it can be done better." Haynes adds that he hired his former colleagues McGregor and Doshi because "I'm not the culture guy."

The ultimate goal for Cohen could be to run a hedge fund again. Even



# The Softer Side of Stevie Cohen

- ▶ The investing legend calls on consultants to overhaul his firm
- "People mistakenly believe that...the only motive is money"

#### Markets/Finance

 a small number of fee-paying clients would help defray the costs of managing Cohen's personal fortune. Within the past year, executives at the firm discussed asking the Securities and Exchange Commission to limit any ban on managing outside capital to three years, say two people familiar with the matter. The SEC hasn't resolved its two-year-old civil case against Cohen accusing him of failing to supervise two employees, Mathew Martoma and Michael Steinberg, who were found guilty of insider trading. Steinberg has been exonerated on that charge, and Martoma is appealing his conviction. A recent appeals court ruling made it harder for prosecutors to prove insider trading and jeopardized the crackdown by U.S. Attorney Preet Bharara. Point72 executives have repeatedly said the firm has no plans to manage outside capital.

Doshi and McGregor, who fell in love while working at McKinsey, run a management consulting firm called Vega Factor, whose motto is "We engineer high performing cultures." They chose the name, according to the company website, "because our planet wobbles like a top, eventually, there will be a new North Star: Vega. By naming ourselves Vega Factor, we remind ourselves that nothing is constant."

The couple embedded themselves in Point72 for much of this year to help steer it toward a culture driven by better communication, where employees can learn more and learn it faster than anywhere else, they say. "People mistakenly believe that in the world of hedge funds, the only motive is money," Doshi says. He and

McGregor preach that bad cultures are dominated by fear and greed.

In interviews with staffers, he and McGregor found the highestperforming Point72 managers were motivated by the mental workout they got. "One portfolio manager we interviewed said, 'Point72 is like boot camp for the mind. I'm learning to solve puzzles and connect dots better than I could learn anywhere else," McGregor says.

People familiar with the firm say it's more like boot camp, full stop, and the tone is set at the top. Former SAC employees are full of stories about Cohen's acerbic manner. If a portfolio manager or analyst couldn't answer a question about a stock, the billionaire founder was likely to lash out. "Do you even know how to do this f---ing job?" was a standard barb. Impatience reigned. Cohen once upbraided a subordinate for having no trading ideas that year, says a person familiar with the firm; it was the first week of January. The billionaire himself acknowledged his temper, once saying that employees need worry only if he yells at them after the market is closed.

Teams competed against one another. One former employee described the environment as shark tanks within a shark tank. Senior portfolio managers could measure their performance against internal rivals throughout the day because all profit and loss could be seen in real time. There were multiple groups picking stocks in the same industries. Every investment professional fought to funnel his best picks into the portfolio Cohen managed personally. If





the chosen ideas made money, those involved would get a piece of the profits. In its case against SAC and its employees, the government said the bonus system created an incentive for traders to seek inside information. A year ago, Haynes said the firm would stop the practice because of "regulatory and reputational risks."

Point72 has been in growth mode during the past year, adding a big-data research unit, setting up a new fund, and hiring 150 investment professionals, mostly analysts with no more than five years of experience. It hired 15 college graduates out of 400 applicants this summer for its Point72 Academy, a training program for investing talent. In May the firm invited a CNBC camera crew to its headquarters in Stamford, Conn., to broadcast from the trading floor. Haynes says being more open is good for the company's image: "The clear feedback that we got is that we were a mystery, and it made people uncomfortable," he says.

process

#### **Lobbying Kill Bill**

Is it possible to stop legislation that threatens an industry's revenues and could be enacted in a matter of weeks? Yes, if you're the banking lobby. —Phil Mattingly and Sarah Svoboda



I.R. 22

#### Surface Transportation Reauthorization and Reform Act of 2015

A crucial highway bill that would be funded by a cut in dividends the Federal Reserve pays member banks on the Fed stock they are required to own.

The current rate is

The bill proposes cutting it to

for banks with more than \$1b in assets.

The change would cost banks

#### • Lay the Groundwork

After the funding proposal showed up in the Senate, the industry's top trade groups released a joint letter stating their opposition. Lobbvists met with lawmakers, spoke to them at fundraisers, and conveyed their unhappiness to congressional staffers. Their argument: Financing infrastructure with the revenue of an unrelated industry would set a bad precedent



Before midyear evaluations, McGregor and Doshi held sessions with the fund's U.S. portfolio managers in company cafeterias and conference rooms to explain how typical performance reviews add little value and can stifle innovation. Point72 says it's made evaluations less about past performance and more geared to providing feedback and advice for improvement. The emphasis on better communication prompted one manager to create a regular meeting for his team, getting everyone together on Fridays to talk about the week's successes and failures, McGregor says. In March, Point72 also stopped its down-and-out policy, which called for money managers to be shut down if they lost 10 percent of their portfolio's assets.

Doshi and McGregor say they're even helping prevent Point72 employees from getting fired. The two of them taught managers that often their employees are blamed for poor performance when the problem is they're in the wrong job. At least one associate in danger of being dismissed was reassigned after his managers realized he was in a role that didn't suit his strengths, McGregor says. "Now the manager is happy, the executives are happy, the company was saved from a bad situation," she says. "It's shifting to a culture of when something goes wrong, what are the things all around that person we could change to make them more successful?"

Some employees, who asked not to be identified discussing internal affairs, say Doshi and McGregor's teachings have yet to reach the firm's core, and recent efforts by executives to change have mainly increased the number of internal e-mails and meetings. One former Cohen client says the changes aren't much more than consultant mumbo jumbo. "You go work at Google for stuff like that," says Brad Alford, chief investment officer at Alpha Capital Management in Atlanta. "You go to Point72 to kick butt and make money and retire before you turn 30." —Heather Perlberg and Katherine Burton

**The bottom line** Steven Cohen has hired former McKinsey consultants to remake his firm's cutthroat culture.

#### **Real Estate**

#### 'Staties' Are the Stars Of Auckland's Boom

- ► Homes built for the needy have big lots and prime locations
- "We're going to run out of fools to buy houses"

Originally built by the New Zealand government as housing for the poor, a two-bedroom brick cottage on Kerr Street in Auckland had a bathroom streaked with mold and a kitchen without a sink. After a frenzied bidding war, it sold for NZ\$1.04 million (\$681,096)—double its valuation for tax purposes.

So-called state homes are in high demand because of their typically generous land sizes and proximity to the city. The changing fortunes of these modest dwellings reflect a fervor that's spurred Auckland's biggest property boom in two decades. The average house price in New Zealand's largest city is now higher than in London. "It's like the supermarket before it closes on Christmas Day—everyone thinks they'd better get in or they'll miss out," says Carol Wetzell, an agent at Barfoot & Thompson in Devonport, the firm that sold the 82-year-old Kerr Street home.

Nestled around two large harbors near the top of the nation's North Island, Auckland is New Zealand's economic powerhouse and home to almost a third of the South Pacific nation's 4.5 million people. With a mild climate and an abundance of parks and beaches, it routinely ranks among the world's 10 most livable cities. A housing shortage and an historic lack of barriers to property speculation have helped average house prices in the city jump 70 percent, to NZ\$1.08 million (\$707,292), in the past four years, says researcher CoreLogic. In comparison, house prices advanced only 9.9 percent, to NZ\$553,291, in the capital, Wellington, and 50 percent, to £443,399 (\$668,645), in London in the same period.

Prime Minister John Key was raised in a state house in Christchurch by his widowed immigrant mother, and the Auckland municipal government plans to create a NZ\$1.5 million sculpture of a "statie" on the city's waterfront. With the runup in house prices, the government can count more than 650 state homes worth at least NZ\$1 million in its Auckland property portfolio. Among the government's most valuable holdings, CoreLogic

#### ② Put the Grass Roots to Work

The American
Bankers Association
encouraged executives
of small banks to
deploy employees, with
very specific talking
points, to speak with
their congressional
representatives. They
are effective lobbyists
because they're often
important figures in
local communities and
can't be tagged as
"Wall Street."

# **3** Find Some Friendly Pols

The industry got the best kind of support: the bipartisan variety. Representatives Bill Huizenga (R-Mich.) and Bill Foster (D-III.) wrote a letter to House and Senate leaders opposing the provision. The two secured the support of 148 of their colleagues—an unusually large number for a policy letter.

# Spread the Word

Op-eds appeared from industry leaders such as Camden Fine, head of the Independent Community Bankers of America, and from pundits across the political spectrum. The industry repeatedly reminded lawmakers and staff that Federal Reserve Chair Janet Yellen warned in a July hearing that the provision "could conceivably have unintended consequences

# **⑤** Concoct a Compromise

The bankers knew they could kill the provision only if they came up with alternate funding for the bill. After trading ideas with receptive congressional staffers, they found a solution: The money for the highway bill would come from the operating profits the Fed sends to the Treasury each year. Huizenga backed the compromise.



The amendment killing the dividend cut was brought to the House floor on Nov. 5.

354

72

Nay

Yea

#### On to the Senate...

House negotiators—and lobbyists—will use the big vote for the amendment as leverage in reconciliation talks with the Senate over a final version of the bill.



If the provision comes up again? "We will reengage on this issue by working closely with the state associations and ABA members... to make sure we can shoot it down."

—Rob Nichols, ABA chief executive officer

#### Markets/Finance

■ says, is a two-bedroom home in Westmere, an Auckland suburb, with a rotting clapboard facade. With the prospect of sea views if renovated, plus space for a tennis court and swimming pool, the property is valued at NZ\$2.2 million, the company estimates.

New Zealand house prices are the second-highest relative to income

\$707

Average house price in Auckland, higher than that of London among developed economies (Belgium has the highest ratio), prompting the central bank to flag the prospect last week of a "damaging correction" in the market that puts the economy at risk. "This

boom that we've had has been huge," says Shamubeel Eaqub, an independent economist in Auckland, who co-authored *Generation Rent*, a book on the decline of homeownership in New Zealand. "For a young couple to buy a modest home in Auckland, it's 60 percent of their income on mortgage payments. We're going to run out of fools to buy houses."

Speculators have earned quick profits flipping government homes. Tony Tang, a property agent with real estate firm Ray White, handled the NZ\$1.10 million sale in June of a three-bedroom former state house in Mount Albert, less than 5 miles from Auckland's central business district. The investor-owner made NZ\$344,000 in 15 months, without having to lift a paintbrush. Like many state houses, the home was "valued on the land only," Tang says. Such exploits are not always popular with the public. "People are sick of seeing these people in the paper who made a million after just mowing the lawn

three times," says Wetzell, the real estate agent in Devonport.

Not all owners of state homes are rushing to cash in. Juliette Hogan says the value of her two-bedroom state apartment in Freemans Bay, less than 1.5 miles from Auckland's center, has increased at least 50 percent since she bought it four years ago. Still, potential profit wasn't what attracted her to the flat, built in the 1970s, when the harbor-side suburb was still home to the Destructor, a giant incinerator that carbonized the city's trash. "I like the idea that state houses are solid and dependable builds," says Hogan, a fashion designer who has a clothing store down the street from her apartment. The neighborhood has a "mixed bag" of residents and properties, she says. "Most are still owned by Housing New Zealand and tenanted," Hogan says. "I love the diversity." —Emma O'Brien

**The bottom line** With home prices up 70 percent in four years, the government owns more than 650 Auckland houses valued at NZ\$1 million or more.

#### **Fixed Income**

# Bond Advice From One of the Best

- ► Western Asset's Eichstaedt goes big on banks
- "It's a much less risky business model than it was during the crisis"

A top-performing bond-fund manager says the most effective way to protect your portfolio against the coming rise in interest rates is to scale back on Treasuries bet big on the bonds of U.S. banks, and take some risk in

#### "This recovery has been begrudgingly slow and haphazard, but we think it's here to stay"

emerging markets such as Mexico. Carl Eichstaedt, who runs the \$15.3 billion Western Asset Core Plus Bond Fund, says big banks will be among the first to benefit as a healthier U.S. economy prompts the Federal Reserve to raise rates for the first time in almost a decade. Banks will do well, he says, because stronger growth will boost loan demand while higher benchmark rates will bolster banks' net interest margins-the difference between what they pay to borrow and what they charge for loans. More stringent regulations also mean banks are taking fewer chances for the sake of quick profits. "It's a much less risky business model than it was during the crisis," Eichstaedt says. "It's not necessarily good for the equity holder, but it's music to the

Eichstaedt was Morningstar's U.S. fixed-income fund manager of the year for 2014. His fund focuses on intermediate-term U.S. investment-grade debt but has the option to invest in junk bonds and emerging markets. It's returned 1.7 percent in 2015, data compiled by Bloomberg show. That's better than 98 percent of similar funds, which are barely up this year. The fund has posted an average annual return of 4.5 percent over the past five years, beating 94 percent of rivals.

ears of a bondholder."

Actively managed bond funds have gained only 0.7 percent in the past 12 months, about half the return for those that track indexes, data compiled by Bloomberg show. That's a stark

contrast to previous years, when active managers outperformed the benchmarks. Eichstaedt says the Fed will start raising short-term interest rates in December and lift them to 1 percent by the end of next year as the economy strengthens. That's lower than the Fed's own projection of 1.375 percent. The central bank has kept borrowing costs close to zero since cutting them in



2008 to combat the financial crisis.

"This recovery has been begrudgingly slow and haphazard, but we think it's here to stay," says Eichstaedt, who learned his craft as a bond trader at Chemical Bank (now part of JPMorgan Chase) and did a stint at Pacific Investment Management before joining Western Asset in 1994.

In addition to financial bonds, Eichstaedt sees opportunities in emerging markets, whose currencies have been pummeled by the rally in the dollar. Based on its holdings at the end of September, about 3.7 percent of the fund's assets are invested in debt from Mexico, more than in any country outside the U.S.

After lagging U.S. government bonds in the first nine months of the year, emerging-market sovereign debt has gained 2.5 percent since Oct. 1; junkrated corporate bonds have advanced 1.6 percent; and investment-grade corporate bonds have broken even, index data compiled by Bloomberg show. Treasuries have lost about 1 percent.

Joe Higgins, who manages fixedincome strategies at TIAA-CREF in New York, says the Fed's rate increases will be seen as a sign of confidence in the economy's ability to generate job growth and consumer demand. In contrast to Eichstaedt, Higgins prefers to focus more on debt issued by consumer-based companies in his \$2.8 billion TIAA-CREF Bond Fund, which has outperformed 94 percent of similar funds in the past year. He reasons that continued growth will pull more Americans into the labor force and fuel spending, while the increasing pool of returning workers will keep wage inflation low. Some of his biggest consumer holdings at the end of the third quarter included debt issued by Harley-Davidson and Ford Motor. "We can't have animal spirits and a move to the more traditional precrisis economy until someone, somewhere, demonstrates confidence," Higgins says. "We're seeing a bit of confidence in consumer spending. We still haven't seen it in the corporate suite." Daniel Kruger and Wes Goodman

**The bottom line** Eichstaedt, whose fund has outperformed 98 percent of similar funds this year, is bullish on bank bonds.





**Petco finds a new home.** CVC Capital Partners and the Canadian Pension Plan Investment Board picked up the pet-supplies retailer from TPG and Leonard Green & Partners, which took the company private in a \$1.8 billion buyout in 2006. Three other private equity firms had been sniffing around Petco's 1,400-store chain. Petco held merger discussions with PetSmart earlier this year, but they didn't lead to a deal.

\$160

**Pfizer combines with Allergan.** The transaction is structured so Allergan buys its larger rival to keep company headquarters in tax-friendly Ireland.

\$2.5b

**Microsemi acquires PMC-Sierra.** The agreement ended a monthlong bidding war with Skyworks Solutions as consolidation continues in the semiconductor industry.

\$1.9**2** 

**Diebold buys Wincor Nixdorf.** Purchasing its German rival makes Diebold the world's largest ATM maker, with a market share of about 35 percent. The company will be called Diebold Nixdorf.

Hanmi Financial offers to merge with BBCN. The all-stock proposal would create the largest bank focusing on Korean Americans, with about \$10 billion in deposits.

\$975m

**Pinnacle Foods purchases Boulder Brands.** The M&A recipe adds gluten-free baked goods and Smart Balance spreads to Pinnacle's empire of pickles and frozen vegetables.

\$380m

AstraZeneca sells Entocort. Perrigo is buying the U.S. rights to the drug, which treats Crohn's disease. This year through September, U.S. consumers spent \$89 million on the pills.

\$81,200

**Tesla prices its SUV.** People who order the "falcon-winged" Model X now won't get the vehicle for a year. Tesla's sedans start at \$96,700.

# Keeping the Giving Going

The future looks bright thanks to initiatives focused on charitable giving, educational support and environmental stewardship

IN PARTNERSHIP WITH



For the 10th straight summer, Warren Buffett made headlines when he donated \$2.84 billion of his personal fortune to charitable foundations, increasing his lifetime contributions to a gaudy \$21.5 billion, according to Reuters. That an 85-year-old man who has vowed to give away 99 percent of his wealth continued his philanthropic efforts may not have qualified as a surprise, but one fact did raise eyebrows: 2015 was Buffett's most generous year yet.

Noteworthy as it may be, Buffett's charitable giving was actually the latest example of an uplifting trend. In fact, according to the Urban Institute, National Center for Charitable Statistics Core Files (Public Charities, 2000, 2005 and 2010), philanthropy is now a \$4 trillion-plus industry, a staggering figure that the IRS Business Master File (2000–11) says would place it between real estate and mining as the 10th-largest business sector. From Nebraskan billionaires to multinational banks, insurers and charities, giving back by giving big continues to gain momentum.





#### The Power of Charitable Giving

According to the 2014 U.S. Trust® Study of High-Net-Worth Philanthropy\* Participants, 98.4 percent of high-net-worth households donated to charity. This remarkable number represents the highest rate of high-net-worth participation in charitable giving since the study began in 2006.

"The average giving by high-net-worth households has certainly risen with wealth levels, and, overall, people have a very optimistic view of the future of giving," says Ann Limberg, Head of Philanthropic Solutions and the Family Office for U.S. Trust, Bank of America Private Wealth Management. "These clients have an increased financial capacity, and there's a perceived need for the causes they support."

Historically, philanthropic giving used to be done by simply writing a check—typically for tax or wealth management reasons. But today, as millennials come into more money, or older family members get serious about passing down a legacy, donors have become exponentially more engaged. "The study of high-net-worth philanthropy has found that wealthy donors who volunteered give 73 percent more, on average, than those who

didn't volunteer," says Limberg (\$76,572, compared to \$44,137). The same report also found that giving among wealthy donors who volunteer increased 23 percent from 2009 (\$62,302) to 2013 (\$76,572), on average.

More than half (56 percent) of wealthy donors prioritize education, followed by poverty (35 percent), healthcare (34 percent) and the environment (28 percent). "These are global issues that have a high impact in the philanthropy universe," Limberg says. In turn, nonprofits and charities—in these sectors and beyond—have started to operate with more of a business-centered focus. "They have to think about demonstrating success metrics that are more businessdriven than they've ever been before."

As the impact of charitable giving becomes more and more apparent, donors are looking to see what else they can do to bring their strategies to the next level. The emerging trend: pooling philanthropy vehicles. "In recent weeks, we've separately met with three women who are working in areas of global development and social entrepreneurship," Limberg says. "They feel like they've reached a pinnacle in their

individual giving, and they've asked us to introduce them to like-minded individuals who are working toward a similar objective in a different way."

Connecting networks of charitable donors is just one of the services offered by U.S. Trust, as high-net-worth individuals are increasingly relying on professional advisors for support with their charitable activity, according to the 2014 U.S. Trust Study of High-Net-Worth Philanthropy. "These clients need advice, and they are looking to professionals to help them pursue their goals as part of their overall wealth strategy," says Limberg, "They want to maximize the impact, but they also want to make sure that their key financial advisors are tuned in to what they care about."

As high-net-worth clients continue to work with their advisors, the philanthropic forecast shines brighter than ever. The number of high-net-worth clients giving to charity may be a lofty 98.4 percent, but Limberg is optimistic about that figure increasing. "Considering the holistic approach that millennials take to giving, ultimately, we still have room to grow."

#### The Corporate Investment in Community

CECP, a coalition of CEOs focused on societal engagement, has also found positive forecasts of strong, stable societal investment on the corporate side. As part of CECP's Giving in Numbers survey, companies were asked to predict how 2015 contributions will compare to those made in 2014. All told, 41 percent of responding companies predicted that giving levels would keep pace with the previous year.

Companies are also becoming more strategic, thinking about their societal investment as more of a core business strategy than philanthropy. CECP's Giving in Numbers reported that 84 percent of companies measured the outcomes and/or impacts of at least a portion of their portfolio.

In addition to thinking about how their work in the community can impact the world outside their walls, companies are also focused on how to use their societal engagement as a way to further engage their employees. "When we think about CEOs, we know that one of their biggest motivators is the opportunity to strengthen human capital," says Carmen Perez, Director of CECP's Evaluation and Data Insights.

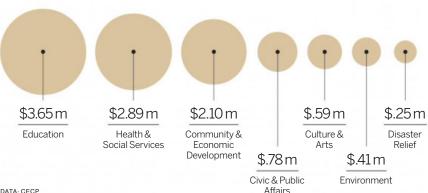
\*THIS STUDY IS A CONTINUATION OF THE 2006, 2008, 2010 AND 2012 BANK OF AMERICA STUDY OF HIGH-NET-WORTH PHILANTHROPY RESEARCH SERIES. CONDUCTED IN PARTNERSHIP WITH THE LILLY FAMILY SCHOOL OF PHILANTHROPY AT INDIANA UNIVERSITY, IT IS THE MOST COMPREHENSIVE SURVEY OF THE CHARITABLE PRACTICES AND ATTITUDES OF WEALTHY AMERICANS.

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# Giving in Numbers

CECP's Giving in Numbers survey highlights the corporate push for philanthropic efforts, and median cash-giving figures serve as a helpful benchmark for companies. Education was the most popular program area last year.



DATA: CECP



# THANK YOU

# Together, We're Building Stronger Communities

United Way partners with leaders in industry to **invest in communities** around the world and improve up to **50 million lives** every year.

Together, we're helping communities from Boston to Bangkok develop innovative strategies that impact education, financial stability and health.

We're proud to recognize four outstanding companies who exemplify world-class corporate social responsibility.









Every year, United Way Global Corporate Leadership companies and their employees contribute more than \$1 billion and volunteer more than 23 million hours – giving selflessly of themselves to improve the lives of others.

#### COMPANIES THAT RAISED \$15 MILLION OR MORE

Wells Fargo

**UPS**\*

MICROSOFT CORPORATION

PUBLIX SUPER MARKETS

AT&T

IBM

BANK OF AMERICA

GE

ExxonMobil

Pwc US

DELOITTE LLP

INTEL CORPORATION

Nationwide

COSTCO WHOLESALE

P&G

Johnson & Johnson

U.S. BANK

**GENERAL MOTORS** 

TARGET

\*First company to exceed giving \$1 billion to United Wa



CECP's 2015 report found that companies' philanthropic contributions are increasingly integrated within environmental corporate strategies

#### The Power of Educational Support

Nonprofits are equally as passionate about education. Just look at United Way, which incorporates education into a multifaceted strategy for change that also focuses on financial stability and health.

United Way continues to drive growth and progress as a \$5 billion organization engaged in more than 40 countries and territories. How? The answer is simple: in the 125 years since its inception, United Way has never stopped charting new territory.

In some cases, that new frontier represents innovative solutions that empower donors to make an even greater impact on communities. Consider Salt Lake City, where United Way's "Pay for Success" system enables their partners in the private sector to invest in high-quality preschool for low-income kids, and get paid back only if the program works.

This is the first time this model has supported early childhood education, and early results are encouraging. Initially, 110 out of 595 participating kids were on track to require special education in kindergarten; after going through the program, only one child needed those services. With \$7 million in private investment, United Way is now broadening the program to 3,700 more children.

Innovative solutions like "Pay for Success" are just one way in which United Way attracts donors who want to impact their communities; at the same time, the nonprofit appeals to a growing number of investors who want to put their dollars toward large-scale solutions around the world.

In 2014, United Way expanded to Shanghai, China, joining with partners to improve learning conditions for 20,000 children of migrant workers. United Way is now expanding a partnership with China Charity Federation to address the needs of migrant workers' children left behind in rural China. The organization's successful foray into a new market like China is due in part to lessons they have applied from Born Learning, a worldwide United Way initiative that has already provided 15 million parents with essential educational materials.

"Each of the 1,800 communities that United Way serves is a laboratory for change," says President and CEO Brian Gallagher. "Success in one allows us to quickly scale proven solutions and bring them to other communities around the world."

# The Power of Environmental Stewardship

Companies can also lead by example when it comes to environmental conservation, and this focus is becoming a crucial part of sound corporate strategy. Nowhere is that more apparent than at MetLife.

Earlier this month, the insurance provider made a game-changing announcement by vowing to become carbon neutral in 2016. Likewise, in addition to the 25

percent reduction in energy usage MetLife achieved domestically between 2005 and 2014, the company is committing to a 10 percent reduction globally. "We work with nearly 100 million people in almost 50 countries, so we want to make sure we're doing the right thing environmentally," explains Joe Sprouls, MetLife's Executive Vice President of Global Corporate Services.

With more than 17 million square feet of office space around the world, focusing on corporate real estate plays a large part in reducing the company's environmental footprint. Through thoughtful planning, MetLife has managed to reduce water consumption, install energy-efficient equipment and divert approximately 65 percent of its waste from landfills by recycling all electronic waste in its U.S. offices.

MetLife has certified 100 percent of its U.S. owned and managed administrative office facilities under the U.S. Environmental Protection Agency's Energy Star commercial buildings program, and more than 50 percent of U.S. owned and managed office facilities are LEED-certified—a designation that will apply to four million square feet of workspace by 2017.

Additionally, every major administrative site in the U.S. now has electric car charging stations. "MetLife has the largest car charging program of all U.S. financial service companies," says Sprouls. "I've actually seen employees bring their families to show off some of the features and initiatives we're using at our offices."

All of these decisions are supported at the top, and MetLife's executive team uses its position to show their commitment to giving back to the environment. With approximately 68,000 employees, MetLife recognizes that its green initiatives can make a significant difference when it comes to the environment. "We feel that all companies should take efforts to reduce their footprint—not only because it's responsible, but it makes financial sense to do it," says Sprouls. "We hope to set an example and encourage others to strengthen their goals, as well."

This has become a common refrain in the C-suite. "We're seeing an expectation from employees, consumers, business partners and even investors," adds CECP CEO Daryl Brewster. "Being a good steward, not only in society but also on the planet, is important for business. It's all part of the recipe for a sustainable company that's growing in responsible ways." — Lisa Freedman

# Why Environmental Stewardship Matters

Joe Sprouls, MetLife's Executive Vice President of Global Corporate Services, explains the company's decision to become carbon neutral and reduce greenhouse gas emissions

# MetLife announced that it will become carbon neutral in 2016. What went into making that decision?

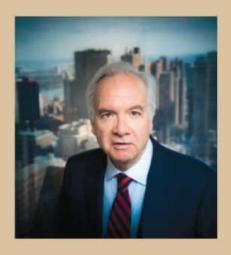
MetLife wants to be a leader in environmental stewardship, and we are working to reduce our impact on the planet. The carbon neutrality goal expands on previous commitments to improve our environmental performance. The decision was endorsed by our Executive Group as a way to demonstrate our commitment to sustainability. We used science-based GHG emission- and energy-reduction targets to ensure we had the greatest immediate and long-term impact.

# Why is environmental stewardship so important to MetLife?

We want to offer our customers more than just insurance—we want to help people expand their possibilities, and that's only possible with a sustainable environment for future generations. For us, being a responsible corporate citizen means caring deeply about environmental stewardship. MetLife's global sustainability program focuses on green building operations, supply chain management, employee engagement, energy efficiency and low-carbon investments.

### What are some of the key steps to achieving your environmental goals?

A significant portion of our environmental impact originates from our global real estate portfolio and supply chain. We recently identified new opportunities to reduce our carbon footprint and energy usage globally to achieve our carbon neutrality commitments. These include specific capital improvement projects and facility upgrades, in addition to opportunities to increase our use of collaboration technology to reduce travel-related emissions. We also work with our major suppliers to identify opportunities



to reduce the environmental impact of their products and technology.

# What role does corporate real estate play in MetLife's environmental goals?

We try to emphasize the creation of environmentally sustainable facilities that leverage green technology and help reduce our overall carbon footprint. All of our U.S. offices are Energy Star-certified, and we operate in 17 LEED-certified buildings globally. Operationally, we've reduced our water consumption by 25 percent since 2010. We divert 65 percent of the total waste in our U.S. buildings from landfills. We've installed 42 electric charging stations in our major administrative sites in the U.S. We also use collaboration technology to reduce employee travel, and we always look to optimize the performance of our buildings by implementing energy reduction best practices.



### What is the business impact of addressing sustainability issues?

We believe leadership in environmental performance and business success should go hand in hand. Sustainable business practices generate cost savings, address climate change, align with our customers' values and position MetLife as an environmental steward. Our environmental strategies have not only cut our energy usage and GHG emissions but have also reduced our energy expenses in the U.S. by almost \$2 million annually since 2005.

### How does MetLife support renewable energy?

In addition to our operational energy initiatives, we make direct investments in renewable energy. Since 2003, we've invested nearly \$3 billion in renewable energy projects such as wind and solar. For example, we now have ownership stakes in more than 25 wind and solar farms that produce enough clean energy to power more than 1 million homes.

### How do you get your employees involved in environmental initiatives?

We have several engagement programs, such as "Our Green Impact," that encourage employees to reduce their environmental impact at work. We conduct quarterly webinars with experts who educate our associates about environmental issues, discuss water and energy savings, and demonstrate how to use green products in day-to-day life. We host electronic waste recycling days where employees can bring in old electronics from home for proper disposal. And we have "green days" where sustainable suppliers are invited to showcase their green products, such as LED bulbs, and provide samples. Employees tell me regularly that our environmental programs make them feel better about coming to work each day.

facil	ity_ city	state	date_of_incident	notes
2357	GERMANTOWN	MD	11/23/2012	15-25 Individuals carrying flyers. Unfair Walmart, Walmart, Walmart, Walfiles at the expense of Don't give them your mor
2596	MOUNT VERNON	WA .	11/23/2012	100 demonstrators on the Without a court order, 10 a
3520	SECAUCUS N	IJ 1	- 45 for -17 for V d. for	110 protestors, on sidewal directing traffic, Union yes
Ho	w Walmart v	vat	ches its	employees
2479	SAN DIEGO	A		35 protestors, Channel 10 r Blocking front doors, no ass _ website.
4383	DEARBORN	M	11/23/2012	Update - 100 people insk actually growing larger.
35	89 SALT LAKE CITY	U	11/23/2012	Reported flashmob of L store that said "If we st
5339	PITTSEURGH	PA	I t	JPDATE: APM was approach manager. The APM told the
5437	SAINT PAUL		MN 11/23/20	012 An OURWa

signs and chanting, passing out Stand With Us, Why is Walmart trying to silence its workers /almart treats employees like sharecroppers. Individuals telling customers, <mark>Enjoy your a Walmart Associates Benefits,</mark> Walmart Employees are on Food Stamps, Stop Exploitation - never leaving.

THE PERSON NAMED IN THE PE

parking lot and at entrances, have asked them to leave, Police will not ask to leave teach of the 3 doors, Sargeant is to call back when he arrives on site

k getting ready to picket, signs read union strike. Five media trucks, chanting, poice signs, UFCW

# By Susan Berfield

news, Signs read People over Profit, UFCW, SEIU, OURWM flag, group is video taping.

te store at electronics dept. They have been asked to leave and refused; the group is they are causing a safety issue; store will contact the police to assist.

O people for (5-10) minutes and then they left per management and police. Let balloons go in and together nobody will fall."

thed by a non-associate on the parking lot and they asked to speak with the store individual that all managers were busy and not available.

ilmart supporter who is an associate from Store 2542 is a part of the protest.

n the autumn of 2012, when Walmart first heard about the possibility of a strike on Black Friday, executives mobilized with the efficiency that had built a retail empire. Walmart has a system for almost everything: When there's an emergency or a big event, it creates a Delta team. The one formed that September included representatives from global security, labor relations, and media relations. For Walmart, the stakes were enormous. The billions in sales typical of a Walmart Black Friday were threatened. The company's public image, especially in big cities where its power and size were controversial, could be harmed. But more than all that: Any attempt to organize its 1 million hourly workers at its more than 4,000 stores in the U.S. was an existential danger. Operating free of unions was as essential to Walmart's business as its rock-bottom prices.

OUR Walmart, a group of employees backed and funded by a union, was asking for more full-time jobs with higher wages and predictable schedules. Officially they called themselves the Organization United for Respect at Walmart. Walmart publicly dismissed OUR Walmart as the insignificant creation of the United Food and Commercial Workers International (UFCW) union. "This is just another union publicity stunt, and the numbers they are talking about are grossly exaggerated," David Tovar, a spokesman, said on CBS Evening News that November.

Internally, however, Walmart considered the group enough of a threat that it hired an intelligence-gathering service from Lockheed Martin, contacted the FBI, staffed up its labor hotline, ranked stores by labor activity, and kept eyes on employees (and activists) prominent in the group. During that time, about 100 workers were actively involved in recruiting for OUR Walmart, but employees (or associates, as they're called at Walmart) across the company were watched; the briefest conversations were reported to the "home office," as Walmart calls its headquarters in Bentonville, Ark.

The details of Walmart's efforts during the first year it confronted OUR Walmart are described in more than 1,000 pages of e-mails, reports, playbooks, charts, and graphs, as well as

testimony from its head of labor relations at the time. The documents were produced in discovery ahead of a National Labor Relations Board hearing into OUR Walmart's allegations of retaliation against employees who joined protests in June 2013. The testimony was given in January 2015, during the hearing. OUR Walmart, which split from the UFCW in September, provided the documents to *Bloomberg Businessweek* after the judge concluded the case in mid-October. A decision may come in early 2016.

Walmart declined to comment on the specifics of the documents, citing the ongoing case. It did send a statement via e-mail: "We are firmly committed to the safety and security of our 2.2 million associates as well as the 260 million customers we serve each week. It's important to remember that Walmart is the largest company in the world with 11,500 stores in 28 countries. Unfortunately, there are occasions when outside groups attempt to deliberately disrupt our business and on behalf of our customers and associates we take action accordingly."

Karen Casey was in charge of Walmart's U.S. labor relations as OUR Walmart emerged. Casey, an attorney, held a similar position at Albertsons for a decade before, with one important difference: Some workers there were represented by the UFCW. In 2003 they joined other grocery employees in Southern California in a four-month strike to resist cutbacks brought on by competition from Walmart. The strike was estimated to have cost \$2 billion.

Casey, along with other executives in Bentonville, first learned about OUR Walmart from managers' calls to the company's labor hotline in the fall of 2010. "Associates were being visited at home by people dressed in khakis and blue shirts, which is the Walmart uniform," she told the NLRB judge. They were, she said, "claiming to be current and former associates asking people to join this group." When asked about Walmart's emphasis on "mitigating labor risks," she replied: "Our real concern is about the safety of our stores and making sure our managers also respond lawfully to any labor activity that may be going on."

UR Walmart made its claims public in June 2011, when 97 employees and their supporters arrived in Bentonville with a 12-point declaration that asked for wages and benefits sufficient to ensure that no worker would have to rely on government assistance. They also called for dependable schedules, expanded health-care coverage, and the freedom to speak up without facing retaliation. In the parking lot, they presented the document to Casey and asked to speak with her inside.

Walmart's "open door" policy allows, and almost always requires, employees who want to talk about workplace conditions with

Protesters outside a Milwaukee Walmart on Black Friday 2012



ARREN HAUCK/GETTY IMAGE

managers to do so individually. Casey didn't let the group in the building en masse. "We had offered to have one-on-ones with our associates to understand their questions and concerns," she said at the hearing. The associates declined. "I think the executives were just as shocked as we were" that workers had come to Bentonville on their own, Cynthia Murray, one of the founders of OUR Walmart, told this magazine in 2012.

During October 2012, OUR Walmart members and supporters began a series of walkouts and protests across the country to increase pressure on the retailer before the holiday shopping season. The group called a National Day of Action for Oct. 10 and sent a few people to Bentonville, where Walmart executives were meeting with Wall Street analysts. Two hundred calls to the labor hotline from almost as many stores were logged throughout around that time.

Some calls betrayed the paranoia of beleaguered managers. 2:30 p.m., Store 5880 in Fairfax, Va.: "A customer began talking to a cashier about the strikes at Walmart this week, and the cashier responded that maybe she should go on strike. AM [assistant manager] feels the cashier was joking when she made the comment."

4:19 p.m., Store 3893 in Zion, Ill.: "Three associates made comments surrounding the 'strikes' in other stores to Grocery ZMS [zone merchandising supervisor]. Grocery ZMS shared his opinion but didn't state our philosophy. He will do so the next time the associates are at work."

The last call in the log, on Oct. 15, came from Yuma, Ariz.: "An associate asked what would happen to associates if they walked out on Black Friday."

almart was watching Colby Harris. He was a full-time employee in the produce department in Store 471 in Lancaster, Texas. He joined protests in California, picketed stores in Dallas, and showed up in Bentonville for the analysts' meeting. In November 2012, he said he had given more than 45 interviews to journalists. "People want to hear from us," he said.

On Oct. 17, Casey, the labor relations executive, sent an e-mail to one of her senior staff: "Colby Harris, what's his story?" Casey said in her testimony that she asked about Harris because he had appeared in press accounts of the walkouts, and Walmart's media relations group asked her for information about him. She also said that Walmart tracked associates "who may be engaged in the demonstrations and strikes to figure out who was working and who wasn't."

As momentum for the Black Friday protests was building, the Delta team raced to respond. The Black Friday Labor Relations Team Daily Meeting had its own acronym: the BFLRTDM. An e-mail on Oct. 24 from a member of the labor relations team to four executives had the subject line: "Blitz Planning (Re-visited due to new information)." The document they updated—the Labor Relations Blitz/Black Friday 2012 Plan—noted some of the latest tactics they expected from OUR Walmart: "work stoppages, mic checks, 1 post of a human chain, social media calls for boycotts and Sponsor a Striker for Black Friday food card program." It also included this request to Walmart's Analytical Research Center: "When does Lockheed provide more analysts?"

The Analytical Research Center, or ARC, is part of Walmart's global security division. Ken Senser, a former FBI officer, oversees the entire group. The executive responsible for ARC was Steve Dozier, according to Casey's testimony. He was director of the Arkansas State Police before he joined Walmart in 2007. "When we received word of potential strikes and disruptive

activity on Black Friday 2012, that's when we started to ask the ARC to work with us," Casey said during her testimony. "ARC had contracted with Lockheed leading up to Black Friday to help source open social media sites."

Lockheed Martin is one of the biggest defense contractors in the world. Although it's best known for making fighter jets and missile systems, it also has an information technology division that offers cybersecurity and data analytics services. Tucked into that is a little-known operation called LM Wisdom, which has been around since 2011. LM Wisdom is described on Lockheed's website as a tool "that monitors and analyzes rapidly changing open source intelligence data...[that] has the power to incite organized movements, riots and sway political outcomes." A brochure depicts yellow tape with "crime scene" on it, an armored SWAT truck, and a word cloud with "MAFIA" in huge type.

Neither Walmart nor Lockheed would comment on their contract in 2012 and 2013, or talk specifically about Wisdom. The only mention of Wisdom in the documents *Bloomberg Businessweek* reviewed comes in a question during the NLRB hearing to Casey, who was asked if she had heard of Wisdom. She said she hadn't.

Christian Blandford, a Lockheed analyst, was monitoring the social media of activists in Bentonville for Walmart's 2013 shareholder meeting. He sent his updates to Walmart and copied Mike Baylor, who's named as a project manager on Lockheed's Wisdom website. On June 4, at 6:30 p.m., Blandford sent this update about the artist and activist Favianna Rodriguez to seven Walmart and five Lockheed managers: "Favianna tweeted that OUR Walmart is preparing for action 'walmart headquarters.' Tweet is 9 minutes old as of this e-mail."

Two hours later, Blandford wrote that Angela Williamson, who was fired by Walmart in 2012 and subsequently hired by OUR Walmart, "tweeted a rhetorical question towards Walmart in which she asks, 'Whats on my agenda tomorrow?'"

ompanies have always kept an eye on their workers. "Everybody from General Motors to the Pacific Railroad had clippings files," says Nelson Lichtenstein, a labor historian. "It's more sophisticated and efficient now, but it's the same thing." Companies can't legally put in place rules-or surveillance-that apply only to labor activists. But they can restrict solicitation during work hours or in customer areas and keep security cameras throughout. And they can set up systems for managers to report concerns of any kind to headquarters. Employers can send people to open meetings or rallies or demonstrations. But there's little labor law regarding companies' monitoring of their employees' own social media accounts. "It's a tricky issue when you are doing something so openly," says Wilma Liebman, who was head of the NLRB from 2009 to 2011. Casey said in her testimony that to her knowledge, Walmart doesn't monitor individual workers' Twitter accounts. While most of the OUR Walmart activists being watched expected to be, none thought it would be by a company like Lockheed Martin. "We're artists, not ISIS," Rodriguez says.

Walmart has been opposed to unions since Sam Walton opened his first store in Rogers, Ark., in 1962. As he put it in his autobiography, *Sam Walton: Made in America*: "Theoretically I understand the argument that unions try to make, that the associates need someone to represent them and so on. But historically, as unions have developed in this country, they have mostly just been divisive." When the Retail Clerks International Union tried to organize employees at two stores in Missouri in 1970, Walton hired John Tate, a

union-busting lawyer, to oversee labor relations. Tate often called unions "bloodsucking parasites," according to ABC News.

The UFCW has started several campaigns aimed at Walmart. In 1999 it focused on the meat departments at 300 Walmart supercenters. Butchers in a store in Jacksonville, Texas, voted—a mere 7 to 3—to join the union in 2000. Two weeks later, Walmart closed its 180 meat counters and switched to prepackaged cuts, saying it would offer meat cutters other jobs in its stores. "Our decision to expand case-ready meat has nothing to do with what went on in Jacksonville," Jessica Moser, a spokeswoman, told the Associated Press.

Training videos, executive memos, and various other antiunion materials have been leaked over the years by groups hoping to embarrass Walmart. A 49-page document from 1997, A Manager's Toolbox to Remaining Union-Free, begins: "As a member of Walmart's management team, you are our first line of defense against unionization." Based on the documents from the ongoing case, many of the tools in the toolbox remain in use. The 1997 guide instructs managers to remain alert for signs of low morale or organizing among their employees. They're supposed to address the causes of low morale and report the organizing to the Bentonville hotline.

The labor relations team uses information from the hotline and social media monitoring to determine which stores are most at risk of labor unrest. These are dubbed Priority 1 stores, in need of extra training for managers and extra information sessions for employees. Several OUR Walmart members have described Bentonville executives arriving suddenly in their stores with scripts in hand. In one video that was shown to new employees until last year, an actress playing an associate says: "The truth is unions are businesses, multimillion-dollar businesses that make their money by convincing people like you and me to give them a part of our paychecks."

Walmart's aim isn't only to watch 100 or so active members of OUR Walmart, says Kate Bronfenbrenner, a lecturer at Cornell's School of Industrial and Labor Relations. "They are looking for the thousands who are supportive so they can intimidate them." Walmart declined to comment on her statement. Casey, in her testimony, repeatedly stated that Walmart doesn't retaliate against protesting workers. She described training managers in what Walmart calls TIPS and FOES: Managers cannot Threaten, Interrogate, Promise, or Spy. They can talk about Facts, Opinions, and Experiences.

his is significant," Casey wrote in an e-mail to her field managers on Sunday morning, Nov. 18, 2012, five days before Black Friday. Casey was referring to intelligence that a manager at Store 5434 in San Leandro, Calif., had turned up. "They [the protesters] will be going to my store at 8 p.m., Friday, Nov. 23," the manager wrote. "They will be in Walmart dress code and wearing yellow vests directing traffic in the parking lot."

A human resources manager for the San Francisco East Bay area offered a suggestion: Have the workers at all the "priority" stores in the area wear vests in a color other than yellow. That would allow management to identify OUR Walmart activists.

A few days later, an executive summary of the expected OUR Walmart activity reported 42 stores with "a high likelihood of activity" and 132 with "potential activity." The number of workers projected to walk out or call in sick ranged from 376 to 492.

By Friday, Nov. 23, OUR Walmart strikers had been identified, members of the Bentonville labor relations team had been sent to Priority 1 stores, all managers had instructions

on how to report protests, the hotline was fully staffed, and lawyers were standing by. As workers, activists, journalists, and shoppers arrived at Walmarts around the country early Friday morning, the labor hotline lit up with reports such as:

Store 2596 in Mount Vernon, Wash.: "100 demonstrators on the parking lot and on entrances, have asked them to leave. Police will not ask to leave without a court order, 10 at each of the 3 doors, Sargeant [*sic*] is to call back when he arrives on site."

Store 2479, in San Diego, had 35 protesters blocking front doors. At 4383, in Dearborn, Mich., 100 protesters mobbed the electronics department. At 3589, in Salt Lake City, balloons with slogans were released in the store. At 2357, in Germantown, Md., an individual was reported yelling out, "This is just Day One. We're never leaving."

Walmart's first public statement went out as the day was getting under way, proclaiming "the best Black Friday ever." Later, spokesman Tovar, who has since left the company, issued another statement: "We had our best Black Friday ever and OUR Walmart was unable to recruit more than a small number of associates to participate in these made for TV events."

The company never did quantify what it meant by "best," though it did announce that since that Thanksgiving evening, Walmart had sold 1.8 million towels and 1.3 million televisions. Internally, Walmart tallied the labor unrest during the 10 days around Black Friday. The labor relations team reported "a record-breaking" 1,600 hotline calls from 977 stores; 250 locations reported protests of some kind. On Black Friday itself, there were 372 hotline calls from stores with "activity."

In testimony, Casey said Walmart counted about 100 workers who had gone on strike on Black Friday. OUR Walmart maintains that about 400 Walmart employees went on strike and that they or their supporters took action at almost 1,200 stores around the country.

Walmart filed an unfair labor practice allegation against the UFCW in November 2012, contending that the one-day walkouts weren't legally protected. In January 2013, the UFCW and OUR Walmart agreed to refrain from picketing or similar "confrontational conduct" for 60 days. Afterward, the NLRB closed the case. Walmart also won seven statewide court injunctions preventing the UFCW and anyone else who wasn't an employee from protesting on Walmart property. In a Maryland case, the judge wrote of the protesters, "the bullying tactics and the lawlessness... that the evidence clearly established in this case, is not okay under the law no matter what their cause is."

n mid-April 2013, Walmart executives began hearing about plans for "Ride for Respect," a bus caravan that would arrive in Bentonville during the weeklong annual shareholder meeting in June. About 14,000 people—hand-picked associates, managers, shareholders, investors, the Walton family—would be in town. Elton John was performing. It was a time of particularly uncomfortable scrutiny for Walmart. A Bangladesh factory, where Walmart garments were produced, had collapsed, killing more than 1,100 workers. Walmart denied knowing its work had been subcontracted there. An investigation by the U.S. Department of Justice into potential bribery in Mexico was under way; Walmart said it was cooperating fully.

A Delta team began operations. When global security heard that members of the Occupy movement might join the protests at corporate headquarters, they began working with the FBI Joint Terrorism Task Forces. The documents from the NLRB hearing don't provide any details about the collaboration or indicate whether it was unusual for Walmart to bring in the

FBI. The bureau had worked with local police forces across the country as they dealt with Occupy protesters.

"With some assistance from LM [Lockheed Martin] we have created the attached map to track the caravan movements and approximate participants," Kris Russell, a risk program senior manager, wrote to colleagues on May 30. The map showed the predicted routes for five buses. By then, 96 associates had announced their intent to strike. Another 115 "uninvited guests" were expected in Bentonville. Forty-five or so probable demonstrations around the country had been identified.

One of the uninvited guests was Patrick Foote, an activist from Florida. He chronicled the trip to Bentonville on his blog; Walmart and Lockheed social media analysts were avid readers. He and others tried to get into the original Walton 5 & 10, now a museum in the old town square. When protesters arrived there, associates brought in for the shareholder meeting were enjoying a company party. Foote wrote that the associates were quickly ushered into buses and driven away. Then staff closed down the museum. Foote wrote of Walmart's preparations: "As an organizer, I have to give them props. It was impressive."

Williamson, the former Walmart associate who became an OUR Walmart organizer, knew she was being monitored in Bentonville. "I sent a couple of fake tweets about where we would be or what we were doing. I don't know if it worked," she says. "I wonder how people feel about Walmart wasting money by hiring Lockheed Martin to read my tweets. I wouldn't be happy about that if I was a shareholder."

In the weeks after the Ride for Respect, Walmart disciplined about 70 associates who had been part of the caravan or protests, including almost 20 whom it fired, according to OUR Walmart. The company said it was enforcing its attendance policy and not illegally targeting strikers. OUR Walmart alleged retaliation. This case, for which these documents were collected, was taken up by the NLRB in January 2014.

The Black Friday Delta team had become more efficient by the autumn of 2013. Its alerts were more frequent; its training and coaching began earlier. Executives were given a summary of all the protests since 2011, store by store, with some associates' names included. Store managers and others received a Black Friday guide called the playbook, which included information about everything from Walmart's "one-hour guarantee" to "incident procedures." It noted that the global security team and labor relations were monitoring open source social media to alert and prepare stores where demonstrations were expected, and instructed employees "to report any suspected and/or actual activity."

On Oct. 4, Casey sent out a request for "Home Office First Responders." She asked that managers from human resources volunteer for hotline shifts during the week leading up to Black Friday. Three days later, an alert from a risk manager in the Global Security Analytic Service (what used to be ARC) noted a Facebook post from a student group in Kentucky that mentioned Black Friday protests. "Could this be the first confirmed BF action?" he asked. In an e-mail on Nov. 4, Casey wrote, "While we're excited.....So are our opponents. We expect similar activity to last year."

Black Friday, Nov. 29, 2013, was a day of strikes and counterstrikes. Bill Simon, then president of Walmart U.S., sent out a statement just after 6 a.m.: "Our Black Friday events were bigger, better, faster, cheaper, and safer than ever." At noon, OUR Walmart held a conference call. "These protests are a powerful escalation by workers and community supporters who refuse to live in fear, who are sick and tired of Walmart's empty promises and PR lies," said Martha Sellers, an employee

in California. Later that afternoon, Walmart released a graphic about its employee wages and benefits.

A two-page Walmart executive summary prepared after that Black Friday noted that picketing occurred at 203 stores, compared with 214 the previous year; flash mobs were down from 76 to 10; instances of people distributing literature declined from 131 to 96. The document highlighted its conclusion that only 20 associates participated in strikes, compared with 118 in 2012.

OUR Walmart said it had carried out nine civil disobedience demonstrations across the country, with about 100 people arrested, and some 1,500 protests.

ince the first strikes in 2012, unfair labor practice allegations have been filed against Walmart on behalf of some 200 workers connected to OUR Walmart, according to the group. The company denies wrongdoing. The labor board prosecutor dismissed some of the allegations and is pursuing others, including the retaliation case from which these documents were obtained.

Among those disciplined was the outspoken Harris, who was fired in September 2013 and now works for the UFCW. Murray, one of the group's founders, remains employed at Walmart, making \$13.59 an hour. Casey is now the senior vice president for human resources at Walmart's logistics division. And Lockheed Martin has announced that its commercial cyber unit, which includes Wisdom, is "under strategic review."

OUR Walmart takes credit for some successes. After Doug McMillon took over as the company's chief executive officer in February 2014, he raised the starting wage to \$9 an hour; it increases to \$10 an hour in 2016. Walmart has introduced a scheduling policy designed to allow employees to work more hours and have more predictable schedules. The changes come amid a nationwide push for higher wages and better working conditions for hourly employees. Fast-food workers have been demonstrating in favor of minimum pay of \$15 an hour, and several cities have raised the minimum wage on their own. OUR Walmart helped spark, and in turn was fed by, the movement.

Walmart doesn't acknowledge OUR Walmart's influence. "The unions who spend a lot of time attacking Walmart make a lot of false claims, but the reality is that Walmart makes decisions based on the best interests of our company, our associates and our customers," Brian Nick, a spokesman, said via e-mail. "We're proud of the wages and benefits package we offer. Our average full-time hourly associate earns more than \$13 an hour in addition to the opportunity for quarterly cash bonuses, matching 401(k) as well as health-care benefits. Walmart is investing \$2.7 billion over this year and next in wages, education, and training for our associates because we know they make the difference."

This year, instead of striking, OUR Walmart is staging a 15-day fast leading up to Black Friday. Workers want to wait until the NLRB ruling before walking off the job again, Murray says. The hunger strike is in support of a \$15-an-hour minimum wage and to highlight the problems some Walmart workers have feeding their families, she says, adding that some 1,400 people are participating in the fast as they see fit and about 200 of those are former and current employees. Murray is one of them.

On Black Friday there will be demonstrations around the country, organized by groups connected to OUR Walmart and joined by employees who aren't scheduled to work. Murray will be at a protest in Washington, D.C. "I do believe that since we've been speaking up, Walmart has had to take a hard look at themselves," she says. "We're not going away." — With Josh Eidelson §

But we could pause climate change starting now By Peter Coy

here's a cheap, quick, dirty, and controversial way to combat global warming that isn't on the agenda of the United Nations climate summit in Paris, which runs from Nov. 30 to Dec. 11. It involves replicating the planet-cooling effect of a volcanic eruption. When Mount Pinatubo in the Philippines blew in 1991, its emissions briefly reversed most of the global warming that had occurred since the start of the Industrial Revolution. The idea is to mimic Pinatubo by using a fleet of modified business jets to inject fine droplets of sulfuric acid into the stratosphere, where they would combine with water vapor to form fine sulfate particles that reflect sunlight away from the earth.

Scientists estimate that a few grams of sulfate would be enough to counteract the warming effect of a ton of carbon dioxide. The cost of this planetary protection? Perhaps 0.01 percent of the annual world gross domestic product. In other words, almost nothing. The cost of stopping the entire planet from warming would be not much more per decade than the \$6 billion the Italian government is spending to protect one city, Venice, from rising sea levels. That's the calculation of a leading figure in the debate i more than 190 countries.

over so-called geoengineering, David Keith, a professor of applied physics at Harvard and of public policy at Harvard's Kennedy School of Government.

Naturally, there's a catch. Several, in fact. The sun shield would merely mask the rising concentration of greenhouse gases, like perfuming a skunk. It adds one pollutant to counteract another. It could reverse progress toward closing the hole in the ozone layer by ripping apart ozone molecules. Sulfate particles falling from the sky could cause air pollution deaths. It would leave fertile coral reefs exposed to deadly bleaching because it wouldn't do anything about ocean acidification. It could even become a cause for war if one country decided it was harmed by another's climate meddling. Even Keith allows that it's a "brutally ugly technical fix."

Critics' biggest worry: It would be perceived as a get-out-of-jail-free card for the planet. If pausing global warming is as easy as sending a fleet of modified Gulfstream G650s into the stratosphere with payloads of sulfuric acid, the weak pressure to cut back on emissions of greenhouse gases might get even weaker. That's why you won't find it mentioned on the agenda of the Paris summit, a major event that's expected to draw 45,000 people from

This leaves humanity in a strange place. An effective but flawed technique for stopping global warming is shunted aside while negotiators try to fix the problem the right way, through cutting emissions. In Paris, China and India will point fingers at the wealthier nations, which will point right back. Meanwhile, temperatures keep going up. As the Parisian philosopher Voltaire might have reminded the UN: The perfect is the enemy of the good.

Every few years, geoengineering, the umbrella term for ideas such as volcano replication, gets rediscovered-and promptly beaten back down. Edward Teller, the father of the hydrogen bomb and an inspiration for Stanley Kubrick's Dr. Strangelove, was an early enthusiast of what backers ambitiously call solar radiation management. That pedigree hasn't exactly won over environmentalists. Steven Levitt and Stephen Dubner were castigated for hyping it in their 2009 bestseller, SuperFreakonomics. Advocates have been accused of playing God, committing chemical terrorism, weaponizing weather, even risking the collapse of civilization. Climate scientist Raymond Pierrehumbert of the University of Chicago calls the acid-spraying idea "barking mad."

Keith has actually mapped out how



it could be done. And unlike those who consider it a break-glass-in-anemergency option, he suggests going ahead with it soon as a complement tonot a substitute for-emissions reductions and other mainstream measures. He says his plan could be rolled out gradually, as soon as 2020 if authorities approved tests now (which they won't) and if the tests were successful (which he thinks they would be).

Keith isn't committed to the sulfuric acid gambit. Sprinkling tiny particles of diamond or aluminum oxide into the stratosphere could also work, and would be only slightly more expensive and probably avoid health effects and damage to the ozone layer, according to an article he and other Harvard scientists published in the journal *Atmospheric Chemistry and Physics* last month. The trade-off is that less is known about that approach. Sulfuric acid is "the devil we know," Keith said in a Nov. 22 interview.

The fight over geoengineering is as much a clash of worldviews as it is an

argument over the intricacies of solar radiation management. The Right considers global warming a nonproblem, whereas the Left condemns quick fixes. Keith, a self-described "oddball environmentalist," is trying to navigate between the two sides. The thin, bearded 52-year-old is a lifelong tinkerer. He taught himself oxyacetylene welding to rebuild the rusted frame of his first car, as he recalls in his 2013 book, *A Case for Climate Engineering*. He's taken long solo ski trips in the high Arctic, he writes, and has a freezer full of last year's mule deer.

Rutgers University climatologist Alan Robock is highly skeptical of what he sees as tinkering on a planetary scale. Robock, 66, is a onetime Peace Corps volunteer whose website features pictures of himself braving the cold in Antarctica and posing with Fidel Castro in Cuba. The late Edward Lorenz, a pioneer of chaos theory, was Robock's adviser on his Ph.D. thesis in meteorology at MIT. Robock's list of 26 downsides to geoengineering ranges from the vital ("whose hand is on the thermostat?") to eye of the beholder ("affect stargazing").

Strangely, Keith and Robock wrote a paper together last year with other authors and agree on much of the basic science. Where they disagree is on how to weigh costs and benefits. Without singling out Robock, Keith says many scientists are exaggerating the risks because they don't trust the world's governments to handle such a powerful instrument. "I share their concern, but I believe in democracy," Keith says. "I don't believe that secret scientific societies should make the decisions."

Several major environmental groups have given at least guarded support to research on geoengineering, including the Environmental Defense Fund and the Natural Resources Defense Council. The small Arctic Methane Emergency Group has gone as far as to support immediate deployment to "refreeze the Arctic." Actual funding has been scarce, though. One of the few sources of money is Bill Gates, who has personally given a few million dollars for work by Keith and Kenneth Caldeira, an atmospheric scientist at the Carnegie Institution for Science.

The U.S. government has no

organized research program, although that could change as global warming gets worse. Early this year the National Research Council issued a report saying that even though attempts to enhance earth's albedo, or reflectivity, "pose considerable risks and should not be deployed at this time," it advocated research "that furthers basic understanding of the climate system and its human dimensions."

The planning needs to cover ideas for how to ensure that a rogue nation or even a company doesn't take matters into its own hands. In his new book, *The Planet Remade*, *Economist* editor Oliver Morton imagines just such a scenario in which a cooling operation is launched in secret by a conspiracy of small nations.

If India suffers famine because a heat wave is killing its crops, the only option for rapid temperature relief would be some type of sun shield, Caldeira says. Even a smallish country could undertake the fix unilaterally. "We can hope they won't be tempted, but if they are, it's important to have the research done now so someone won't accidentally destroy the ozone layer or shift rainfall patterns," he says.

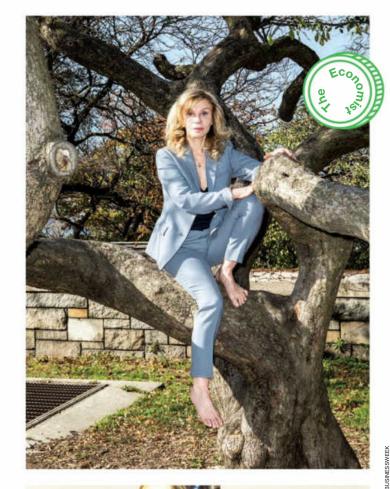
"At this point, no international organization has a direct mandate to address the full spectrum of possible geoengineering activities," the Congressional Research Service said in a 2013 report. A 2013 article in *Issues in Science & Technology* advocated "an independent, broadly based advisory group" on research whose purview would include ethical concerns.

For now the climate talkers in Paris have other priorities. "To the first order of approximation, the world has done nothing for climate change, nothing. And it's very hard to see very much happening going forward," says Nathan Myhrvold, co-founder and chief executive officer of Intellectual Ventures, the technology research and patent company where Lowell Wood, another geoengineering theorist, is an inventor-in-residence. "So what's Plan B? Now, maybe Plan A will get its act together tomorrow, but we think, hey, we should think about Plan B."

Caldeira also wants a good Plan B. (His last name is Portuguese for "boiler," not that that matters.) Says Caldeira: "Criticism is of the form of, 'Oh, it's not perfect.' That's not the question that policymakers will be faced with. It will be, 'Will it help?'" In *Hack the Planet*, his 2010 book, science writer Eli Kintisch called geoengineering "a bad idea whose time has come." — With Ashlee Vance

The idea is to mimic the effects of a volcanic eruption by spraying sulfuric acid into the stratosphere

Interviews by Eric Roston and Brad Wieners



#### **Graciela Chichilnisky** CEO, Global Thermostat You've been working on this for years. Ever get tired of it? When you share an opportunity that has to do with the survival of humankind, vou have an experience that's different from any other experience you may ever have. There's usually a circuslike atmosphere. It requires large spaces, tents. In Copenhagen, they put down sawdust. It even looked like a circus. Your company has a role, too. We have a technology that removes CO<sub>2</sub> from the air.

#### **Thorig Ibrahim**

Minister of environment and energy, Maldives Why is it important for you to be there? Maldives is .0003 percent of carbon dioxide emissions, but we are getting affected first. After a long day, do conferees exchange climate change jokes? I'm sorry, I haven't heard anv. What do you say to climate deniers? I would invite them to the Maldives and the smaller islands. They have to see.





#### Victoria Barrett Fellow, Alliance for

Climate Education What's your climate claim to fame? Suing the U.S. government for neglecting to prevent climate change due to the use of fossil fuels and CO<sub>2</sub> emissions. All the plaintiffs on the case are young people like me, from 8 to 19. I feel like, in some ways, it shouldn't have been my responsibility to deal with it. Whom do you most hope to meet? It would be really cool to meet representatives from the small island nations, like the Maldives.



#### **Christiana Figueres**

Executive secretary. UN Framework Convention on Climate Change Feeling confident? The

Paris agreement is not only possible, it is necessary and urgent. The world needs a new model of growth that is safe, durable, and beneficial to all. We are counting on everyone's contribution.





Director, Potsdam Institute for Climate Impact Research two weeks and more or less situation. You helped establish 2C as the safe warming Whom do you hope to see? all. I'm 65. Global warming will not get me.

Scientist



Nitin Pandit
CEO, World Resources
Institute. India

So what exactly do think tanks do at these conferences? WRI is doing some fantastic work in identifying the main elements of what the agreement ought to be, where we need to show progress, in a realistic manner. What first opened your eyes to climate change? The downpour here in Mumbai some years ago. Cloudbursts put down some 30-plus inches of rain in a day. It's crazy. It brings into question all kinds of things. Why are 45,000 others coming? Everyone knows what this is about.

#### **Michael Levi**

Senior fellow, Council on Foreign Relations Whom do you most want to meet? Narendra Modi. India today could be China 15 years ago. Energy is one of your areas of focus, right? Yes. I'm always interested in how the oil and gas industry approaches the climate agenda. I think you're seeing an interesting fissure between European corporate leaders and American ones.





#### **Kate Brandt**

Lead for sustainability, Google

Is Google working on any "moonshots," à la driverless cars, to address climate? There's a project that we'll be bringing with us to Paris called Makani, which is a wind kite that we've been working on. If it works out the way we hope, you'll be able to get 50 percent more energy than you're able to get from traditional wind turbines with 90 percent less material.



Six ideas for cooling the earth by diverting sunlight By Peter Coy and Eric Roston

Most realistic

#### Whiten the clouds

Big idea Spray salt water into clouds at sea to make them fuller and whiter so they reflect sunshine away from earth. Why it'll never happen Requires a massive, worldwide cloud-seeding operation to cool things just a little.

Polish the Croos such that the County of the

0

0

#### Drop acid—or diamonds

Big idea Deliver tiny reflective particles—sulfates, diamonds, or aluminum oxide—into the stratosphere via jets, balloon-tethered hoses, or artillery shells (page 58). Why it'll never happen Sulfates could deplete the ozone layer, while the effects of diamonds and aluminum oxide are poorly understood. And, really: Spraying drain cleaner into the air?

**Least realistic** 

# Bubble the oceans

Big idea Hitch up aerators to ships so they create tiny bubbles near the ocean surface, making the water frothier and whiter to reflect sunlight away. Why it'll never happen It's safe, but the effects are too negligible to justify the expense. Also, ships' captains aren't likely to embrace the idea.

Throw some
shade with
shade with
shalloons
balloons into
Big idea Float aluminized
nydrogen balloons into
nydrogen balloons form a
nydrogen balloons into
the stratosphere to formever
the stratosphere to costly, and
solar shade. Why i'll Never
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solar

# Make our own sun spots

Big idea Park trillions of selfsteering disks in orbit around the sun at L1—a stable gravitational point 1 million miles from earth to create a space umbrella. Why it'll never happen It would cost trillions of dollars, even if the disks could be shot up cheaply using electromagnetic

acceleration and ion propulsion.

**Getting back** to 1988 By Eric Roston

In March 1958-well before the evidence on climate change was in-the U.S. began monitoring the carbon dioxide content of the atmosphere from a station on Mauna Loa in Hawaii, CO2 is measured in parts per million: If you take any given volume of air in the atmosphere and divide it into a million parts, a certain amount of it will be CO2. When Charles David Keeling, a Scripps Institution of Oceanography geochemist. recorded his first reading on the Hawaiian volcano that spring, the concentration of CO2 stood at 316 parts per million, a curious but not yet alarming level.

CO<sub>2</sub> from fossil fuel emissions and deforestation, we now know, is the dominant greenhouse gas heating the earth. As the parts per million increase, so does the amount of solar radiation in the lower atmosphere, and the risks from climate change becomes greater. We're now at 400 ppm, and 2015 is the first year likely to average a full degree Celsius above preindustrial levels. The true danger zone? That would be 450 ppm, which we may hit in 2040.

The CO<sub>2</sub> level dips from May to October each year. That's when vegetation in the Northern Hemisphere nabs carbon from the air and fuses it into its tissue. At summer's end, foliage dries and stops taking in carbon, hence the squiggles in this graph, known as the Keeling Curve, Distressingly, the lowest point of every year keeps exceeding the highest point of the previous year. **B** 

# **Heat wave**

**Every year, the amount of** CO<sub>2</sub> decreases as trees leaf, then spikes again as the leaves fall

#### March 29, 1958

316.19 ppm **Charles David Keeling** of Scripps Institution of Oceanography starts tracking CO2 at Mauna Loa Observatory.

320.16 ppm **President Lyndon** WWW/W/W/W/W Johnson warns



June 15, 1991

358.22 ppm **Mount Pinatubo erupts** 

in the Philippines,

demonstrating that

enough sulfur in the

atmosphere can cool

the earth temporarily.

July 27, 1979

336.84 ppm

A committee of U.S.

climate scientists

concludes that "none of

the model calculations

predicts negligible

warming."

Exxon scientists write that 1995 is "about the earliest projection of when the temperature might rise the 0.5 degree needed to get beyond the range of normal temperature fluctuations."

330.70 ppm Columbia's Wallace Broecker coins "global warming" in Science magazine.

Aug. 8, 1975

3/1958

DATA: SCRIPPS INSTITUTION OF OCEANOGRAPHY

# **Carbon counter**







#### April 2, 2007 385.49 ppm The U.S. Supreme Court rules that the Environmental **Protection Agency** July 25, 1997 has the authority to 363.8 ppm regulate greenhouse gas pollution—and must. U.S. senators vote 95-0 Obama kills the that the U.S. shouldn't join the Kyoto Protocol, a climate treaty ratified 389.64 ppm Sept. 23, 2003 by 37 countries. Earth is now home to 373.03 ppm 7 billion people. In a European heat wave, 20,000-plus die over the course of the summer; climate Nov. 30, 1995 change has doubled 360.13 ppm the probability of such events, scientists report Climate scientists find "a discernible in Nature magazine the following year. human influence on warming" of 0.46C since 1880—approaching Exxon's 1982 projection. Nov. 12, 2014 397.34 ppm The U.S. and China make a joint announcement on their climate goals. Dec. 10, 1997 363.95 ppm The Toyota Prius rolls out in Japan. Dec. 18, 2009 388.04ppm The Copenhagen June 23, 1988 Accord proposes that 353.19 ppm developed nations "It is time to stop wafraise \$100 billion a fling so much and say year by 2020 to help June 12, 1992 that the evidence is poor nations cope with 359.48 ppm pretty strong that the climate change. President George H.W. greenhouse effect is

Bush and dozens of

other world leaders

sign the United Nations

**Framework Convention** 

on Climate Change in

Rio de Janeiro.

here," NASA's James

Hansen testifies before

Congress.

This is the National Oceanic and Atmospheric Administration's most recent weekly average for the concentration of carbon dioxide in the earth's atmosphere. Before 1750 or so, there were about 280 parts CO<sub>2</sub> for every million parts of air, or 0.028 percent. When the U.S. started monitoring CO<sub>2</sub>, in 1958, it stood at 316 ppm. This year it climbed above 400 ppm. Backward-to 350 ppm, circa 1988 levels-is where we need to go to regain a safe level of risk, says the Stockholm Resilience Institute and other climate scientists.

# **AstheWorldBurns**

#### Five leading indicators from 2015

Nov. 6, 2015

399.0 ppm

**President** 

Keystone XL

pipeline.

400 ppm

375 ppm

350 ppm

We Need

325 ppm

300 ppm

11/2015

Where

To Be



More than 110 inches of snow hit Boston in the 2014-15 winter. With 5 percent more water vapor in the atmosphere, thanks to global warming, what went up came down.



Rain covers Texas in 8 inches of water. Flooding kills more than 30 people in Texas and Oklahoma. Researchers later link the event to climate change.



The heat index in Bandar Mahshahr, Iran, reaches 163F on July 30. The city's record may go down as the emblematic climate event of the year.



**Hurricane Patricia is the strongest Pacific** storm ever to make landfall, with 200 mph winds. The Northern Hemisphere sees 24 Category 4 or 5 storms this season.



Caused by tree clearing and dry El Niño conditions, Indonesia's weather agency calls its forest fire epidemic a "crime against h<mark>umani</mark>ty."



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Breathtaking beauty!

Fabulous food!

# The Expert Gift Guide

Astounding art

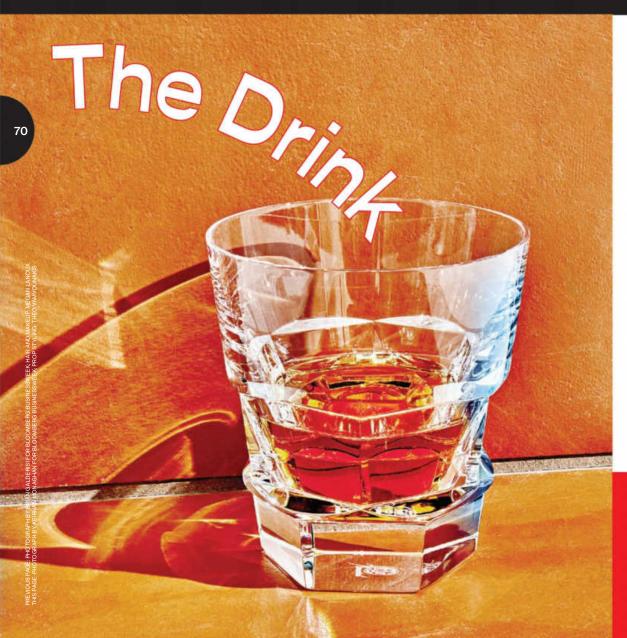
Wicked workouts!

This year, leave your holiday gifting to the pros

By Jason Chen
Photographs by Brian Galderisi, Keirnan Monaghan,
Jonno Rattman, and Tim Schutsky

#### **Gift Guide**

It's the most wonderful time of the year again, except for the least wonderful thing about it: figuring out what to get your loved ones. To make it easier on you, we rounded up authorities on all our favorite things—food, fashion, travel, design, and more—and asked them to help put together this guide. Take their advice, and you can't go wrong. (We couldn't resist throwing in a few picks of our own.) It's kind of like cheating, but not. The shopping is still on you. Happy holidays!



#### Kenta Goto

Founder, Bar Goto

# What's your general approach to gift giving?

"Keep it simple and straightforward. I want the gift I give to be meaningful, so I think about the person and what they might like that they wouldn't buy for themselves."

#### What gift would you give this year? "Super-high-end glassware like the Baccarat Abysse Harcourt Tumbler (\$330; baccarat.com)

(\$330; baccarat.com) creates a special experience, a little treat in our busy daily lives."

### What do you want to receive?

"Suntory Yamazaki 18 (\$249.99; klwines.com), because my fiancée and I love to sip it together."







- 1. "The Fitbit Charge HR (\$149.95; fitbit.com) is one of the most accurate trackers out there. Bonus: It's cool-looking."
- 2. "Zara Terez's Power Mesh performance leggings (\$87; zaraterez .com) are as flattering as black pants, with a little bit of peekaboo mesh. In other words, they're perfect."
- 3. "I'd give a TriggerPoint Grid foam roller (\$39.99; tptherapy.com) so they can roll out their muscles post-workout."

#### Will Torres Founder, Willspace gym

- 4. "Reebok's CrossFit Nano 5 sneakers (\$129.99; reebok.com) have a dense, even sole, which makes them ideal for lifting and good for running."
- 5. "A heart rate monitor is great for tracking your workout performance, but some of them are thick and uncomfortable. Suunto's Smart Sensor (\$79; suunto.com) is very thin and minimal."

6. "The best wicking

shirt on the market is from a small company in New Orleans.

Tasc Performance's Vital V-neck (\$32; tascperformance .com) is incredibly comfortable and breathable and doesn't hold on to odor."



Jeremy Black Co-founder, Sambazon açaí beverages

"The Blendtec
Designer 625 blender
(\$479.95; blendtec
.com) is state-of-theart, and the Twister Jar
(\$109.95) is the best for
making an açaí bowl."



Ryan Black Co-founder, Sambazon

"Manitoba Harvest's hemp oil (\$9.99; manitobaharvest.com) is a good source of omega-3 fatty acids and protein, and it has a great nutty flavor."



Mike del Ponte Co-founder and CEO, Soma water filters

"This year I'm giving everyone the Panatéa matcha ceremonial-grade tea set (\$69; panateamatcha.com). I love the health benefits of matcha, and the design is beautiful."





**Gift Guide** Etc. Vanessa Packer Co-founder, ModelFit studio "Being at Aire Ancient Baths is like being transported to Istanbul. Especially in winter, this experience is a treat." From \$77; ancientbathsny.com 74





and Other Teles

Michael

**Cunningham** 



# Get on a Plane

#### Michael Davis and Laurent Vernhes Co-founders, Tablet hotel booking site

"The landscapes of the Atacama Desert in Chile are like something from another planet. We especially like the Tierra Atacama Hotel & Spa (from \$1,390 for a two-night all-inclusive package; tierrahotels .com) for the way the modernist architecture meets the roughness of the setting."

#### David Bowd Co-founder and CEO,

Co-founder and CEO, Salt Hotels "The Concordia Eco-Resort in

St. John, Virgin Islands (from \$195 per night; concordiaeco-resort .com), is an easy trip from the East Coast. The rooms are perched on a hillside, and the connection to natural beauty is incredibly rejuvenating."

5

#### Lee Schrager Founder, South Beach Wine & Food Festival

"Absolutely look no further than Palace Les Airelles in Courchevel, France (from \$1,173 per night; airelles.fr). It has direct access to the slopes of Les 3 Vallées, a perfect spa, a two Michelinstarred restaurant, and rooms that truly feel like you've escaped to a fairy tale palace."



**Our Pick** 

Cunningham's

and Other Tales

(\$15.90; amazon

.com) reimagines

classic fairy tales

psychological twist.

The illustrations

by Japanese artist

Yuko Shimizu

are surreal.

"THE GLOW" PT 2

with a wry

A Wild Swan

Michael

### Etc.

#### Joe Doucet

Designer

 "Unlike your typical puzzle, where you have a picture to guide you, with Bryce Wilner's Gradient Puzzle (\$18; areaware.com) there's only a subtle shift in color. A masterpiece, no pun intended."

## Tasso Roumeliotis

Founder and CEO, Location Labs

2. "The feedback from the NeuroSky EEG brainwave starter kit (\$99.99; neurosky.com) helps you track your mental state, so you don't get burned out and can maximize your potential."

#### Ariana Mouyiaris Creative director, Make Beauty

3. "Mauli Rituals Himalayan healing salts (\$39.60; mauli rituals.com) help balance and optimize our bodies against the stress of modern life."

#### Zack Akers and Skip Bronkie

Co-creators, Limetown podcast

4. "If you want to unwind with an existential crisis, Hearts of Darkness (\$39.99; amazon.com) and Burden of Dreams (\$23.39; amazon .com) look at two uncompromising artists-Francis Ford Coppola and Werner Herzog, respectivelyand how not compromising almost kills them but also yields truly stunning films."

## Sarah Gertrude Shapiro

Co-creator, Lifetime's UnREAL

5. "The Microphones' album *The Glow, Pt. 2* (\$199.99; amazon .com) is an epic thing in the world. The deep, foggy, analog care that Phil Elverum puts in produces one of those rare things that actually deserve to be heard on vinyl."

#### The Outfit Jill Wenger Owner, Totokaelo boutique "The mohair-nylon blend makes it durable, and the rich color makes Uri Minkoff it feel fresh." Designer Marni Degradé sweater (\$760; totokaelo.com) 1. "The fit of a Saint Laurent blazer (part of a full suit, \$2,990; barneys .com) is so special and striking. It can be dressed up or down and creates great and varied moments." Clare Vivier Designer 2. "For the women in my office, I'd like to give an Isabel Marant cashmere scarf (\$335; barneys.com). An accessory like a scarf is so universal, and this one is perfect for evenings out, too." **Our Pick** Matt Taylor Fendi's ladylike Founder, Tracksmith Peekaboo bag performance apparel (\$5,300; fendi.com) is both traditional 3. "The Outlier and adventurous-Liberated wool duffel the perfect combo coat (\$750; outlier.cc) is for gifting lined with ultra-warm lightweight fleece, with high-tech magnetized fasteners down the front. It's the ideal jacket for being outside in deep winter." **David Hart** Designer 4. "The Renzo briefcase from Ernest Alexander (\$1,095; ernestalexander.com) is a great, manly bag. You can carry a laptop, iPad, notebook-all the supplies you need." Jeanne Yang 5. "The Gilbert blazer by Rag & Bone (\$516; net-a-porter.com) is such an evergreen piece. In cost per wear, it's worth every cent."

Todd Snyder Designer

Stylist

6. "A cozy sweater is always a great gift. I love See by Chloé's ponchos (\$595; saksfifthavenue .com) especially."







# The Finishing Touches



**Dana Lorenz**Designer, Fallon Jewelry

"My friend Irene Neuwirth has the most striking pieces. These earrings set with rose-cut Rose of France gems (price on request; Irene Neuwirth West Hollywood) have a fantastical quality of the utmost luxury."



Kal Vepuri Co-founder, The Arrivals

"A 37-millimeter Uniform Wares watch uniformwares .com) is a classic."



#### Our Pick

The **twin pearl ear cuff** from designer Shannon Nataf's Joaillerie line is striking on its own, but it will also play well with just about anyone's existing jewelry collection (\$1,280; Dover Street Market NY).



#### Tassy de Give

Co-owner, Sprout Home garden store

1. "Peperomia are great in low-to-medium light. The ripple variety is my favorite."

#### Joshua Greene

Co-owner, Hernandez Greene design store

2. "I like the handcrafted feel of these A Question of Eagles planters (\$35; westelm.com). They bring the outdoors in."

#### Kelly Wearstler Designer

3. "The simple lines and metal work of Lindsey Adelman's table light (\$900; thefutureperfect.com) are stunning."

## Craig Olson

Founder, Canoe design store

4. "Piet Hein Eek's Tube clock (\$189; canoeonline.net) is made from extruded aluminum, and the number markers are actually produced in that process. The brass plating adds a bit of luxury."

#### Lisa Smith

Creative director, Areaware design store

5. "Cire Trudon's Spiritus Sancti candle (\$95; barneys .com) smells like an old cathedral, very peaceful."

#### JP Williams Owner, Design MW

6. "I love a Carl Aubock leatherwrapped rock paperweight (\$288; shop.the189.com). Walter Gropius had one on his desk."

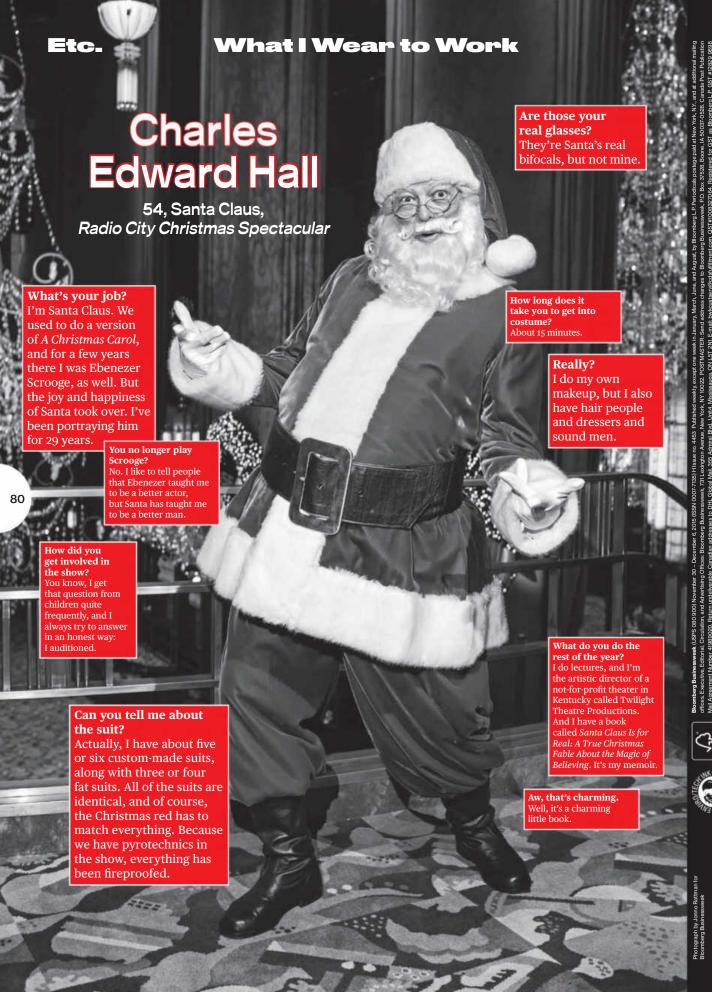
#### Hanya Yanagihara Author, A Little Life

7. "Markus Brunetti's cathedral portraits are composed of hundreds of images to capture the splendor of these buildings." (Prints from \$9,600; yossimilo .com, and book \$31.80; artbooksonline.eu)

#### Isaac Nichols Ceramicist

8. "The Twenty **Four Hour Woman** calendar (\$26; slenhardt.bigcartel .com) has a different hilarious drawing for every day of the year."







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It's no secret: business has changed—in every way, for every business. Modern technologies have brought new opportunities and new challenges, like BYOD and a mobile workforce, that old networks just weren't built for. While demand on these networks has increased exponentially, networking costs have skyrocketed and IT budgets haven't kept pace.

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